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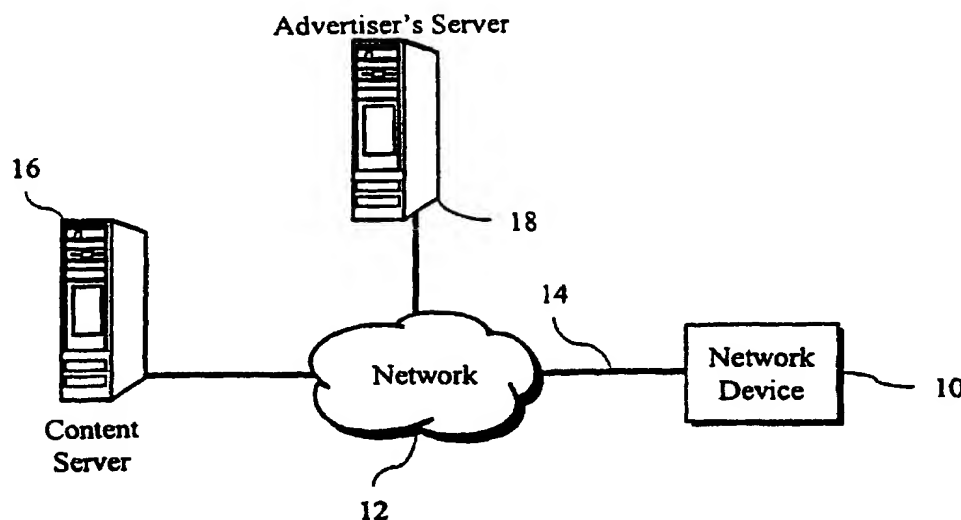
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(54) Title: DYNAMIC CREATION AND DELIVERY OF TARGETED ADVERTISEMENTS OVER A COMMUNICATIONS NETWORK



(57) Abstract: In a network including a network device and a content provider, a system and method are provided for creating and delivering personalized advertisements to the network device. The content provider stores a plurality of advertisements, each advertisement having an associated target audience. The content provider receives a request for data from the network device and determines consumer profile characteristics of the operator of the network device. Next, the content provider selects at least one of the stored advertisements based on its associated target audience and the consumer profile characteristics. Each advertisement includes an optional tag and an optional coupon. Each tag and coupon includes a target audience for more focused targeting of the advertisement to the consumer. The content of the coupons may be dynamically determined based on consumer profile characteristics. The requested data and selected advertisements, tag and coupons are then delivered to the network device. Iconic representations of advertisements and coupons may also be delivered.

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**DYNAMIC CREATION AND DELIVERY OF TARGETED
ADVERTISEMENTS
OVER A COMMUNICATIONS NETWORK**

BACKGROUND OF THE INVENTION

5 1. Field of the Invention

The present invention relates to targeted advertising and in particular to the dynamic creation and delivery of targeted advertisements over a communications network such as the Internet.

10 2. Description of Related Art

Advertisements developed for billboards, newspapers, magazines, television, radio, the Internet or other media are designed to deliver a general message to a broad audience. To increase the effectiveness of each advertisement, the advertiser typically targets a group of consumers that are likely to purchase its product or service, and places the advertisement in the media that are likely to reach that targeted group. For example, clothing manufacturers often place advertisements for their clothing lines in fashion magazines to target consumers who read these magazines before making clothing purchases. Another example of consumer targeting is the placement of an advertisement to reach consumers in a particular geographic region. For example, a television commercial for snow tires will probably be more effective if played in regions with regular snowfall, than if played in a tropical region.

Although traditional advertisements can be targeted to a relatively small subset of consumers, one drawback is that there is no direct correlation between the advertisement that is placed and the person who will view it. The advertisement may be viewed by any person, including persons who are not in the targeted group. Recent innovations in communications networks such as the Internet provide advertisers with the ability to identify individual consumers for their targeted advertisements. However, it is too expensive

and impractical through traditional advertising methods for an advertiser to create a separate advertisement for each consumer who may view it.

The Internet also allows for the delivery of specific content to individual consumers. For example, a computer user now has the ability to view videos through the Internet that previously could only be viewed through a traditional television broadcast. Similar to a television broadcast, a video stream may be transmitted to the user's computer and played in real time, and/or the entire video may be stored on the user's computer for playback at the user's convenience. However, unlike traditional television broadcasts which are preprogrammed with a sequence of programs and commercials targeted for a relatively broad audience, the Internet allows consumers to search, retrieve, and play individual videos they find on the Internet at any time, from any place, and in any order.

15 SUMMARY OF THE INVENTION

The present invention provides a system and method for dynamically creating targeted one-to-few or one-to-one advertisements to consumers over a communications network such as the Internet. A computer network includes a consumer operated network device and a content provider. The network device is adapted to access the content provider through the computer network, allowing the network device to request and receive data from the content provider.

In a preferred embodiment, the content provider includes a computer system that stores video data, consumer profile information and an advertisement database. The content provider uses the consumer profile information and advertisement database to dynamically assemble targeted advertisements for delivery to a consumer who requests video data from the content provider. In operation, the content provider first receives a request for data, such as a video file from the network device. The content provider next determines consumer profile characteristics of the consumer operating the network device. Preferably, the content provider stores consumer profile data on each consumer that accesses its services, and updates this information

whenever new information is discovered about the consumer. For example, the consumer's profile data may be updated whenever a video is selected to track the types of videos that the consumer prefers.

5 Targeted advertisements may then be assembled for play with the selected video files on the network device. The advertisement database stores information for a plurality of advertisements, each advertisement having an associated target audience. Generally, if the consumer is a member of the targeted audience for an advertisement, then the advertisement may be selected. In a preferred embodiment, the consumer
10 profile data is compared to the target audience of each advertisement and if the target audience includes at least one of the consumer profile characteristics, then the advertisement may be added to an available advertisements list.

Each advertisement may include an optional tag and an optional
15 coupon. A tag is an advertising segment that is combined with an advertisement to create an advertisement that is more focused on a particular target audience. Each tag is stored by the content provider and includes a tag target audience and a link to an associated advertisement. For each advertisement in the available advertisement list, the target audiences of its
20 associated tags are compared to the consumer profile characteristics. If the consumer is a member of the target audience of one or more tags, then the tag that provides the best fit with the consumer is appended to the advertisement in the list.

A coupon is an automated advertisement that may be created in real
25 time based on the consumer profile characteristics. Each coupon is stored by the content provider and includes a coupon target audience and a link to an associated advertisement or tag. For each advertisement in the prioritized list, the target audience of its associated coupons are compared to the consumer profile characteristics. If the consumer is a member of the coupon
30 target audience of one or more coupons, then the coupon that best fits the consumer is appended to the advertisement. The coupons having associated tags are appended to the tags in a similar manner. The content of each

coupon may be predetermined or dynamically created based on consumer profile characteristics.

Advertisements may be scheduled to play before, during and after each requested video file. In the preferred embodiment, advertisements are played before and after each selected video file and available advertising time is set aside in advertisement blocks. Each advertisement block has a predefined duration and includes advertisements selected from the available advertisement list. The available advertisement list is sorted according to how well the consumer matches the target audience of each advertisement and any associated tags or coupons, and the advertisements are selected from the sorted list to best fill the duration. Advertisements from the sorted list may be selected multiple times if there are not enough advertisements in the sorted list to fill the total available advertising time. Each advertisement, tag and coupon also includes a set of properties that may affect where each advertisement is placed.

The content provider next delivers the requested video files and dynamically created advertisements to the network device. In the preferred embodiment, the network device receives a continuous flow of data from the content provider that may be played for the consumer over the network device. A first advertisement block is streamed over the network to the network device, followed by a first selected video file and a second advertisement block. The remaining selected videos and advertising blocks are streamed in a similar manner. In an alternate embodiment, the advertisement blocks are appended to the requested video file and the appended file is downloaded to the network device for viewing on the network device at a later time.

Each advertisement may include a hot spot, allowing the consumer to interact with the advertisement as it is played on the network device. In a preferred embodiment, each advertisement includes a hot spot for providing the consumer with additional information from the advertiser. When the consumer selects the hot spot, the network device sends a request to the content provider for the network address of the advertiser. Upon receiving the

request, the content provider logs the request in the consumer's profile and the advertisement database, and returns the advertiser's network address to the network device. The network device then accesses information from the advertiser over the network. Alternatively, the advertisement may include the
5 network address of the advertiser so that the network device may be directly connected to the advertiser when the hot spot is selected. Information concerning the selection of the hot spot may be stored locally on the network device and uploaded to the content provider at a later time.

In a preferred embodiment, the advertisement blocks further include
10 data that enable each advertisement and coupon to be iconically represented on the network device. As each advertisement is played on the network device, its associated icon, and the icon of any coupons associated with the advertisement, are added to a quicklist. By selecting an advertisement icon from the quicklist, the consumer may buy the advertised product, obtain more
15 information, visit the advertiser's web page or accomplish other tasks associated with the advertisement. By selecting a coupon icon, the consumer may view and print out the coupon. All information relating to the playing of the advertisements and videos, the consumer's selection of advertisement hot spots and icons, and the consumer's selection of coupon icons is tracked by
20 the content provider and used to update the consumer profile information.

A more complete understanding of the dynamic creation and delivery of targeted advertisements over a communications network will be afforded to those skilled in the art, as well as a realization of additional advantages and objects thereof, by a consideration of the following detailed description of the
25 preferred embodiment. Reference will be made to the appended sheets of drawings which will first be described briefly.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 illustrates a communications network in accordance with a preferred embodiment of the present invention;

30 Fig. 2 illustrates data transmitted from a content provider to a network device in accordance with a preferred embodiment of the present invention;

Fig. 3 is a block diagram illustrating the information flow for the creation and delivery of targeted advertisements in accordance with a preferred embodiment of the present invention;

Fig. 4 is a block diagram illustrating a preferred embodiment of an advertising campaign;

Fig. 5 illustrates a sample display of a network device in accordance with a preferred embodiment of the present invention;

Figs. 6a and 6b illustrate a coupon generation screen and generated coupon in accordance with a preferred embodiment of the present invention;

Fig. 7 illustrates the types of advertising information that may be stored for an advertising campaign;

Fig. 8 illustrates the types of consumer profile data that may be stored;

Fig. 9 is a flow diagram illustrating a preferred algorithm for selecting appropriate user profile information to be utilized in selecting targeted advertisements;

Fig. 10 is a flow diagram illustrating a preferred algorithm for selecting targeted advertisements and playing selected advertisements along with selected videos; and

Fig. 11 is a flow diagram illustrating a preferred embodiment of an algorithm for transmitting a selected advertisement to a network device.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

The present invention provides a system and method for dynamically creating targeted one-to-few or one-to-one advertisements to consumers over a communications network such as the Internet. In the detailed description that follows, like element numerals are used to describe like elements illustrated in one or more of the aforementioned figures.

Fig. 1 illustrates a communications network in accordance with a first preferred embodiment of the present invention. At least one network device 10 is connected to a network 12, such as the Internet, through a communications link 14. The network device 10 is preferably a personal computer; however, in alternate embodiments the network device 10 may be

a television, a set-top-box, a cellular telephone, a beeper or any other device adapted to access the network 12. The communications link 14 is preferably a broadband connection such as a T1, DSL or ISDN line. As known in the art, broadband technology provides high-speed data transmission (generally greater than 300 kb) and is commonly used for the transmission of voice and video across a network. Alternatively, the communications link 14 may be a satellite device, a wireless connection, a standard telephone line, an electrical line, a local area network, or any other method of providing communications between the network device 10 and the network 12.

At least one content server 16 is connected to the network 12. Preferably, the content server 16 is a web server providing World Wide Web services on the Internet 12, and includes a storage device for storing web pages, video content, advertising campaigns and consumer profile data. Although a single content server 16 is illustrated, it should be apparent that the tasks performed by the content server and the information stored on the content server may be distributed over a plurality of devices located in multiple geographic regions. In operation, a consumer using the network device 10 accesses web pages from the content server 16 through the Internet 12. Through the web pages, the consumer may select and retrieve one or more videos stored on the content server 16, and view the retrieved videos on the network device 10. The selected videos may be streamed across the Internet 12 and viewed on the network device 10 as it is received, or downloaded to the network device 10 for playback at a later time.

Before the selected videos are transmitted to the network device 10, the content server 16 dynamically selects and creates one or more video advertisements targeting the user of the network device 10. The user viewing the selected videos will be presented with targeted video advertisements at selected times, preferably before and after each of the selected videos are played on the network device 10. A preferred embodiment of the data transmitted from the content provider 16 to the network device 10 is illustrated in Fig. 2. As illustrated, the user selected a first video 20 and a second video 22 for viewing on the network device 10. The content provider 16 first

transmits a first advertisement block 24, followed by the first video 20, a second advertisement block 26, the second video 22 and finally a third advertisement block 28. Each advertisement block 24, 26 and 28 includes any number of advertisements generated as part of an advertising campaign.

- 5 When the transmitted data is played on the network device 10, advertisements will be played before and after each selected video.

The selected advertisements may include hot spots—i.e., parts of individual advertisements that are selectable by the user. A hot spot allows the user to interact with the advertisement and is typically utilized by
10 advertisers to provide the user with additional information from the advertiser. In a preferred embodiment, each advertisement includes a hot spot that causes the network device 10 to connect to the an advertiser's computer 18 (see Fig. 1) through the network 12. The advertiser's computer 18 stores the web pages that include additional content describing the advertiser's products
15 and services, and screens that allow the user to order an advertised product.

The selected advertisements may also include data that enable the advertisement to be iconically represented on the network device 10. In a preferred embodiment, this information includes a thumbnail image to iconically represent the advertisement plus a URL of a web page that provides
20 further information if the icon is selected. The icon may be a static or animated image. For example, as illustrated in Fig. 5, for each advertisement that is played in a viewing area 54 of a display 52 of the network device 10, an advertisement icon 56 associated with the advertisement is added to a quicklist 58. The quicklist 58 stores each advertisement icon available to the
25 user, thus enabling the user to click on an advertisement icon to buy the advertised product, obtain more information, visit the advertiser's web site or accomplish other tasks associated with the advertisement icon.

Fig. 3 illustrates the preferred information flow for the creation and delivery of targeted advertisements. A consumer product goods (CPG)
30 manufacturer 30 creates an advertising campaign for its products, purchases advertising time from the content provider, and transmits the advertising campaign to the content server 16. It is anticipated that the CPG 30 may

work with an advertising firm or other third parties who create the advertising content and purchase the advertising time. If the CPG 30 has local affiliates, such as local CPG 32, the local CPG 32 may create its own local advertising campaign in the form of tags and coupons that may be incorporated into the advertising campaign created for the CPG 30. The local CPG 32 may transmit its tags and coupons to the CPG 30 or directly to the content provider. It should be appreciated that the local CPG 32 may also create its own advertisements, independent from the CPG 30 advertising campaign.

A preferred embodiment of an advertising campaign will now be described with reference to Fig. 4. An advertising campaign 40 includes at least one advertisement 42, optional tags 48 and optional coupons 50. Preferably, the advertisement 42 includes video advertisements having clickable hotspots; however, the advertisement 42 may also include other types of advertisements that are playable over the network device 10 in addition to the video content selected by the user, such as interstitials, bumpers and promos.

Preferably, the advertising campaign 40 will include a plurality of advertisements 42 targeting consumers with various levels of specificity, such as national 42a, regional 42b and local 42c advertisements. The national advertisement 42a is designed to be played for any consumer regardless of residential location or consumer attributes. The regional advertisement 42b targets consumers in a certain geographical, demographic or psychographic audience. For example, a tire manufacturer may play a regional advertisement for snow tires to consumers in the Eastern United States. The local advertisement 42c is designed to target a group of consumers in a relatively small geographic, demographic or psychographic audience, such as residents of a particular city or county. It should be appreciated that the advertising campaign 40 may include any number of advertisements 42 targeting any combination of consumers, and that the national, regional and local advertisements described above are merely illustrative.

Each advertisement 42 may be appended with one or more optional tags 48, allowing additional content to be included in the advertisement 42

and more focused targeting of consumers. For example, if a tire manufacturer creates a national video advertisement promoting its new line of tires, a local tire retailer may create a video tag 48 that is played after the advertisement 42 to inform local consumers that the advertised tires may be purchased at its retail location.

One or more optional coupons 50 may be appended to either the advertisement 42 or the optional tag 48. Each coupon 50 is an automated promotion that can be dynamically created in real time based on a consumer's user profile and the target audience of its associated advertisement and tag. For example, the local tire retailer may offer a coupon for free tire balancing with the purchase of four tires to consumers that are loyal customers of the local tire retailer. As illustrated in Fig. 5, for each advertisement that is played in the viewing area 54 of the display 52 of the network device 10, icons 57 representing the coupons associated with the advertisement are added to the quicklist 58. The quicklist 58 stores each coupon available to the user, thus enabling the user to retrieve and print valid coupons at a later time.

Each time a coupon is delivered to a consumer, a unique coupon key is created and stored by the content server 16. The user may print the coupon with the unique coupon key on a local printer, or alternatively, write down the unique coupon key for presentation to the local affiliate. The coupon key uniquely identifies the coupon, allowing the advertiser to confirm the validity and use of the coupon. Because the unique coupon key is generated when the coupon is delivered, the advertiser has feedback that links the advertisement delivery to the advertisement consumption.

Fig. 6a provides an example of a data entry screen that may be used by a local automobile dealer for defining a coupon to be associated with an automobile advertisement. In a preferred embodiment, a coupon is created by defining a coupon type 62, an expiration date 64, a value for the coupon 66, a quantity of coupons to offer 68, and a frequency with which to offer the coupons 70. It should be appreciated that the data needed to define a coupon will vary based on the industry, type of local affiliate and other factors.

Each selection on the data entry screen has an associated target audience, allowing the coupon to be dynamically created based on the current consumer profile. For example, the automobile dealer could set the target audience for tune-ups to local consumers who drive automobiles that the dealer is certified to service, and the target audience for oil changes to all other local consumers who own an automobile. When the automobile advertisement is selected for a consumer, a coupon will be dynamically generated based on the consumer's profile. Thus, the consumer will either receive a coupon for a tune-up or an oil change, or no coupon at all, depending on the automobile and residential information stored in the consumer's profile. The value field 66 provides another example of dynamic coupon creation. As illustrated, the value of the coupon is based on a calculation that rewards consumer loyalty to the automobile dealer. Thus, different consumers in the target group for a tune-up may receive different discounts on the tune-up depending on how often they have used coupons at the automobile dealer in the past year.

Fig. 6b illustrates a preferred embodiment for the creation of the dynamic coupon. Each data field 72-76 includes a list of selections defined by the automobile dealer, each selection having an associated target audience. It should be appreciated that any target audience defined for a coupon may include all consumers. One selection from each data field 72-76 is chosen based on a comparison between its target audience and the consumer profile. If the consumer profile matches more than one selection on a data field 72-76, then a selection is chosen based on a determination of priority, which may include choosing the most valuable coupon. In the preferred embodiment, the selections chosen in certain fields may also depend on the prior selections chosen from other fields. For example, the automobile dealer may offer up to \$10 off of a tune-up, but limit the discount to \$5 off of a car wash.

As discussed above, in a preferred embodiment the content server 16 includes storage for advertisement information and consumer profile data. Fig. 7 illustrates the type of advertising information that is stored for advertisements 80, tags 82 and coupons 84. Each advertisement 80, tag 82

and coupon 84 has related content, properties, consumer targets and history data. The content data includes the actual content played for the consumer on the network device 10, such as a video file storing a video advertisement, the data describing a coupon and/or a link to a manufacturer's web site.

5 Stored properties may include the length of each advertisement, the number of times each advertisement should be played, and the type of products advertised. Each advertisement 80, tag 82 and coupon 84 also has an associated target consumer group, which is defined by its consumer target data. The consumer target data may specify that all consumers should be

10 targeted, or may specify a geographic region in which to play the content, a date and time for playing the content, or other information that may be used to target a particular group of consumers. The history data is used for tracking information such as the dates and times that the content has been played, the number of times the content has been played, and the characteristics of

15 consumers that have clicked through the played content. Each advertisement 80 further includes a list of associated tags 82 and/or coupons 84 that may be appended to the advertisement 80. Similarly, each tag 82 includes a list of associated advertisements 80 to which the tag may be appended and a list of coupons 82 that may be appended to the tag 82, and each coupon 84

20 includes a list of associated advertisements 80 and/or tags 82 to which the coupon 84 may be appended.

Fig. 8 illustrates the types of consumer profile data that are stored by the content server 16 in a preferred embodiment of the present invention. The consumer profile data includes required information 90, optional

25 information 92 and learned information 94. When a user registers to use the content server 16, the user will be required to provide certain information 90 for purposes of user identification (e.g., user name, e-mail address), consumer targeting (e.g., user's gender, age) and user system information (e.g., connect speed, default media player). A registered user may optionally

30 provide additional information 92 that can be utilized by the content server 16 to better target the user's interests. The content server 16 is also programmed to learn certain user preferences based on the user's prior video

selection and response to played advertisements. In a preferred embodiment, the content server 16 will store learned user preferences of both registered and unregistered users.

The content server 16 further includes program storage, such as
5 random access memory or a hard disk drive, for storing computer program instructions executed by the content server 16. The flow diagram illustrated in Fig. 9 is a preferred software algorithm executed by the content server 16 for selecting the appropriate consumer profile information to be utilized in selecting targeted advertisements. At step 100, the content server 16
10 receives a request from a consumer using network device 10 to view one or more videos stored on the content server 16. Next, the consumer is identified and a determination is made as to whether the consumer is a registered user of the content server 16 (step 102). As known in the art, a consumer's identity can be established through the IP address or MAC address of the network
15 device 10, by requiring a login and password, or through other identifiers. If the consumer is a registered user, then a determination is made (step 104) whether a consumer profile exists for the consumer. If no consumer profile exists, then a new consumer profile is created at step 106. Typically, a consumer profile is created by asking the consumer to provide personal
20 information, such as the information described in Fig. 8. At step 108, the registered consumer profile is selected for consumer targeting of advertisements.

Referring back to step 102, if the consumer is not a registered user, then the content server 16 searches for an external consumer profile at step
25 110. In the preferred embodiment, learned information concerning every user of the content provider 16, including unregistered users, is stored in a consumer profile. If no external consumer profile can be found, then a new external consumer profile is created in step 112. The external user profile associated with the consumer is selected in step 114 for consumer targeting
30 of advertisements. At step 116, information learned from the consumer's current video requests are stored in the selected consumer profile. In a preferred embodiment, each video stored on the content provider 16 has

associated data describing the subject matter of the video (e.g., sports, automobiles), the length of the video and any other information that may be useful to understanding the consumer's preferences.

Fig. 10 illustrates a preferred software algorithm executed by the content server 16 for selecting the targeted advertisements and transmitting the selected advertisements along with the selected videos. At step 130, the content server 16 creates a list of available advertisements. The selection of advertisements for this list may be based on various criteria, including the selected consumer profile and each advertisement's properties and target audience. In a preferred embodiment, the data stored in the selected consumer profile is compared to the consumer target data associated with each advertisement. When a match is found (i.e., the consumer is a member of the target audience) the advertisement is added to the list of available advertisements. Next, the consumer target data for each tag associated with the advertisements on the list is compared to the selected consumer profile. If the consumer is a member of the tag's target audience then the tag is appended to its associated advertisement; otherwise, a general tag will be appended. Finally, the consumer target data for each coupon associated with the advertisements and tags in the list are compared to the selected consumer profile. If the consumer is a member of the coupon's target audience, then a new coupon is created and appended to its associated advertisement and/or tag. The list of available advertisements is then ranked by the degree in which each advertisement (with its associated tags and coupons) matches the selected user profile. The more precise the match, the higher the rank. It is anticipated that other factors may also be included in ranking the advertisements. For example, an advertisement that was recently viewed by the consumer may be given a lower priority than an advertisement the consumer has not yet viewed. The advertisements may further be prioritized based on factors such as the amount paid by the advertiser for the placement of the advertisement, the presence of competitive advertisements on the list, and the frequency with which each advertisement has been played.

In the preferred embodiment, a predetermined amount of time is set aside before and after each selected video for the playing of advertisements. The amount of time set aside may be based on many factors such as the selected user profile (e.g., the consumer's abandonment rate), the length of the selected videos, and the popularity of the selected videos. At step 132, the cumulative length of the list of prioritized advertisements is compared to the total available advertisement time. If the list of prioritized advertisements is less than the available advertisement time, then the list of prioritized advertisements is appended to include repeat advertisements to fill in the remaining advertisement time (step 134). At step 136, the advertisements from the list of prioritized advertisements are selected one-by-one until the available advertising time before the first selected video is filled. Next, at step 138, the selected advertisements are transmitted to the network device 10, followed by the next selected video at step 140. Steps 136-142 repeat until all of the selected videos have been transmitted to the network device 10. After the final selected video is transmitted, additional advertisements are selected from the prioritized list of advertisements and transmitted to the network device 10 to fill the remaining advertisement time (step 144).

In an alternative embodiment, the advertisements and the video content are stored into a playlist which includes the user's identification, specific file name or location of the file to play (i.e., complete URL or directory address), and the date, time or order that the items are to be played. The playlist may be stored in the network device 10, the content provider 16 or other device accessible through the network 12 and accessed by the user at any time.

Fig. 11 illustrates a preferred embodiment of an algorithm executed by the content server 16 when transmitting a selected advertisement. At step 150, the national, regional, or local advertisement file is transmitted. Next, if the advertisement has one or more associated coupons, then the coupons are transmitted after the advertisement (steps 152 & 154). At step 156, a determination is made as to whether the advertisement has an associated tag. If there is a tag, a determination is made at step 158 as to whether there

is specific tag information. If no specific tag information exists, then a general tag file is transmitted following the advertisement (step 160). If specific tag information is present, then the specific tag file is transmitted after the advertisement and any associated coupons (step 162). Finally, if the tag has
5 one or more associated coupons (step 164), then the associated coupons are transmitted in step 166.

Having thus described a preferred embodiment of dynamic creation of targeted advertisements over a communications network, it should be apparent to those skilled in the art that certain advantages of the within
10 described system have been achieved. It should also be appreciated that various modifications, adaptations, and alternative embodiments thereof may be made within the scope and spirit of the present invention.

The scope of the present invention is defined by the following claims.

CLAIMS

What is Claimed:

1. In a network including a network device and a content provider, a computer-implemented method performed by the content provider of creating and delivering personalized advertisements to the network device, comprising the steps of:
- 5 storing a plurality of advertisements, each stored advertisement having an associated target audience;
- receiving a request for video data from the network device;
- 10 determining consumer profile characteristics of the operator of the network device;
- selecting at least one of the stored advertisements based on the advertisement's associated target audience and the consumer profile characteristics, wherein the operator of the network device is a member of
- 15 each selected advertisement's associated target audience; and
- delivering the requested video data and the selected at least one of the stored advertisements to the network device.
2. The method of Claim 1 wherein the step of delivering comprises the steps of:
- 20 streaming a first subset of the selected advertisements to the network device;
- streaming the video data to the network device; and
- streaming a second subset of the selected advertisements to the network device;
- 25 whereby the network device receives a continuous flow of data from the content provider for playing the selected advertisements and requested video over the network device.
3. The method of Claim 1 wherein the selected advertisements are appended to the requested video data and the step of delivering comprises
- 30 downloading the appended data to the network device.

4. The method of Claim 1 further comprising the step of updating the user profile information based on the requested video data.

5. The method of Claim 1 further comprising the step of updating the user profile information based on the selected advertisements.

5 6. The method of Claim 1 wherein the step of selecting comprises the steps of:

comparing the consumer profile characteristics to the target audience of each advertisement, and if the target audience includes at least one of the consumer profile characteristics, adding the associated advertisement to a prioritized list of advertisements; and

10

choosing at least one advertisement from the prioritized list of advertisements.

7. The method of Claim 6 wherein the step of selecting further comprises the steps of:

15 sorting the prioritized list of advertisements according to the degree to which each advertisement's associated target audience matches the consumer profile characteristics;

wherein the at least one advertisement chosen from the prioritized list has an associated target audience that best matches the consumer profile characteristics.

20

8. The method of Claim 7 wherein the step of selecting further comprises the steps of:

defining at least one advertisement block, each advertising block having an associated duration;

25 wherein a subset of advertisements from the prioritized list are added to each defined advertisement block, each subset of advertisements having a total duration that is less than or equal to the duration of its associated advertisement block.

9. The method of Claim 1 further comprising the steps of:
storing a plurality of tags, each stored tag having an associated advertisement and a tag target audience; and
for each selected advertisement, comparing the tag target audience of each associated tag to the consumer profile characteristics and if the operator is determined to be a member of the tag's target audience, selecting the tag;
wherein the step of delivering further comprises the step of delivering each selected tag to the network device.
10. The method of Claim 9 further comprising the steps of:
storing a plurality of coupons, each stored coupon having a coupon target audience and at least one of an associated advertisement or associated tag;
for each selected advertisement, comparing the coupon target audience of each associated coupon to the consumer profile characteristics and if the operator is a member of the coupon's target audience, selecting the coupon; and
for each selected tag, comparing the coupon target audience of each associated coupon to the consumer profile characteristics and if the operator is a member of the coupon's target audience, selecting the coupon;
wherein the step of delivering further comprises the step of delivering each selected coupon to the network device.
11. The method of Claim 10 wherein the content of at least one selected coupon is dynamically generated based on the consumer profile characteristics.
12. The method of Claim 1 further comprising the steps of:
storing a plurality of coupons, each stored coupon having a coupon target audience and an associated advertisement;
for each selected advertisement, comparing the coupon target audience of each associated coupon to the consumer profile characteristics

and if the operator is determined to be a member of the coupon's target audience, selecting the coupon; and

wherein the step of delivering further comprises delivering each selected coupon to the network device.

5 13. The method of Claim 12 wherein the content of at least one selected coupon is dynamically generated based on the consumer profile characteristics.

 14. The method of Claim 13 wherein each selected coupon includes a unique validation code.

10 15. In a computer network, a content server comprising:
 means for storing video files and advertisements, each advertisement having an associated target audience;

 means for receiving a request for a video file from the network;
 means for generating and maintaining a consumer profile that
15 identifies characteristics of the requester of the video file;

 means for using the targeted audience for each advertisement and the consumer profile of the requester to select advertisements that target the requester;

 means for appending the selected advertisements to the
20 requested video file; and

 means for delivering the appended file to the requestor.

 16. The content server of Claim 15 wherein at least one selected advertisement includes a hot spot linking the requestor to the content server and requesting a network address when the hot spot is activated by the
25 requestor, and wherein the content server further comprises:

 means responsive to the request for a network address for determining a network address of an advertiser associated with the advertisement and transmitting the determined network address to the requestor;

whereby the requestor accesses the advertiser through the received network address.

17. In a network including a network device, a content server comprising:

5 a processor;
 a storage system connected to the processor, the storage system including storage space for storing video files and advertisements, each advertisement having an associated target audience; and

 a program memory connected to the processor and having
10 program instructions stored therein for instructing the processor to perform steps comprising:

 receiving a request for video files from the network;
 identifying the network device that initiated the video file

request;

15 determining consumer profile characteristics of the operator of the network device;

 selecting at least one of the stored advertisements based on its associated target audience and the consumer profile characteristics, wherein the operator of the network device is a
20 member of each selected advertisement's associated target audience; and

 delivering the requested video files and selected advertisements to the network device through the network.

18. The content server of Claim 17 wherein the step of delivering
25 further comprises the steps of:

 streaming a first subset of the selected advertisements to the network device;

 streaming the video file to the network device; and

 streaming a second subset of the selected advertisements to the
30 network device;

whereby the network device receives a continuous flow data from the content provider for playing over the network device.

19. The content server of Claim 17 wherein the storage system further includes storage memory for storing tags, each stored tag having a tag
5 target audience and an associated advertisement; and

wherein the program memory further comprises program instructions for instructing the processor to perform the step of, for each selected advertisement, comparing the tag target audience of each associated tag to the consumer profile characteristics and if the operator is
10 determined to be a member of the tag's target audience, selecting the tag; and

wherein the step of delivering further comprises delivering the selected tags to the network device through the network.

20. The content server of Claim 17 wherein the storage system
15 further includes storage memory for storing coupons, each stored coupon having a coupon target audience and an associated advertisement; and

wherein the program memory further comprises program instructions for instructing the processor to perform the step of, for each selected advertisement, comparing the coupon target audience of each
20 associated coupon to the consumer profile characteristics and if the operator is determined to be a member of the coupon's target audience, selecting the coupon; and

wherein the step of delivering further comprises delivering the selected coupons to the network device through the network.

25 21. The content server of Claim 20 wherein the content of at least one select coupon is dynamically generated based on the consumer profile characteristics.

22. A computer program product embodying computer program instructions for execution by a computer system storing a plurality of

advertisements, each advertisement having an associated target audience, said instructions comprising:

- receiving a request for video data from a network;
- identifying a source of the video data request;
- 5 determining consumer profile characteristics associated with the source;
- selecting at least one stored advertisement based on its associated target audience and the consumer profile characteristics; and
- delivering the requested video data and selected advertisements
- 10 to the requestor.

23. The computer program product of Claim 22 wherein said instructions further comprise the step of:

- creating a coupon for at least one selected advertisement, the content of the coupon being selected based on the consumer profile
- 15 characteristics;
- wherein the step of delivering further comprises delivering the created coupon to the requestor.

24. In a network including a network device and a content provider, a computer-implemented method performed by the content provider of creating and delivering personalized coupons to the network device,

20 comprising the steps of:

- storing a plurality of coupons, each stored coupon having an associated target audience;
- receiving a request for video data from the network device;
- 25 determining consumer profile characteristics of the operator of the network device;
- selecting at least one of the stored coupons based on the coupon's associated target audience and the consumer profile characteristics, wherein the operator of the network device is a member of each selected
- 30 coupon's associated target audience;

dynamically creating the content of at least one of the selected coupons based on the consumer profile characteristics; and

delivering the requested video data and each selected coupon to the network device.

- 5 25. The method of Claim 24 further comprising the steps of:
 storing a plurality of advertisements, each stored advertisement
 having an associated target audience;
 selecting at least one of the stored advertisements based on the
 advertisement's associated target audience and the consumer profile
10 characteristics, wherein the operator of the network device is a member of
 each selected advertisement's associated target audience;
 wherein each selected coupon is associated with at least one
 selected advertisement; and
 wherein the step of delivering further comprises delivering each
15 selected advertisement to the network device.

26. The method of Claim 25 wherein the step of delivering further
comprises delivering iconic representations of the selected advertisements,
the iconic representations being selectable by the operator when displayed on
the network device.

- 20 27. The method of Claim 26 further comprising the step of receiving
notification that an icon has been selected by the operator.

28. The method of Claim 27 further comprising the step of updating
the consumer profile characteristics based on the selection of the icon.

- 25 29. The method of Claim 28 wherein each icon includes at least one
associated action selected from a group consisting of buy now, show more
information or go to advertiser web page.

30. The method of Claim 24 wherein the step of delivering further
comprises delivering iconic representations of the selected coupons, the

iconic representations being selectable by the operator when displayed on the network device.

31. The method of Claim 30 further comprising the step of receiving notification that an icon has been selected by the operator.

5 32. The method of Claim 31 further comprising the step of updating the consumer profile characteristics based on the selection of the icon.

33. The method of Claim 32 further comprising the steps of:
storing a plurality of advertisements, each stored advertisement having an associated target audience;
10 selecting at least one of the stored advertisements based on the advertisement's associated target audience and the consumer profile characteristics, wherein the operator of the network device is a member of each selected advertisement's associated target audience;
wherein each selected coupon is associated with at least one
15 selected advertisement; and
wherein the step of delivering further comprises delivering each selected advertisement to the network device.

34. The method of Claim 33 wherein the step of delivering further comprises delivering an iconic representation of each selected advertisement,
20 each iconic representation being selectable by the operator when displayed on the network device.

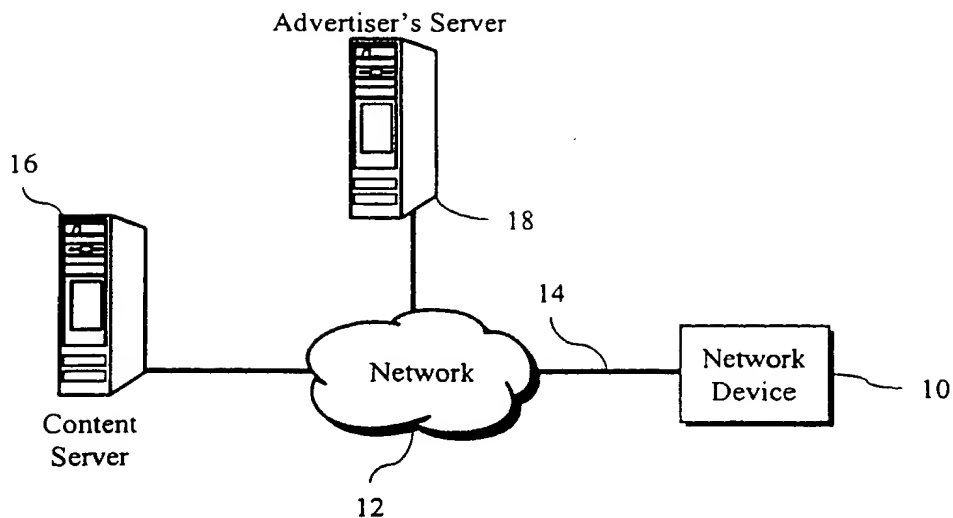


Fig. 1

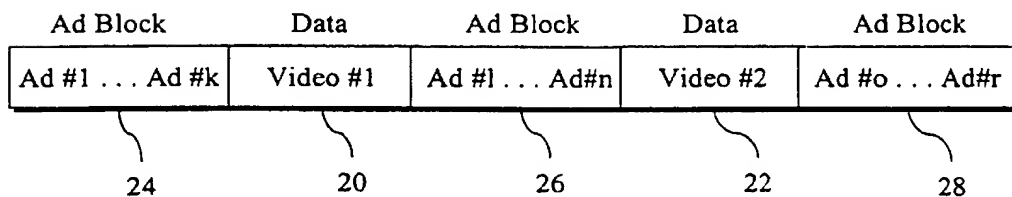


Fig. 2

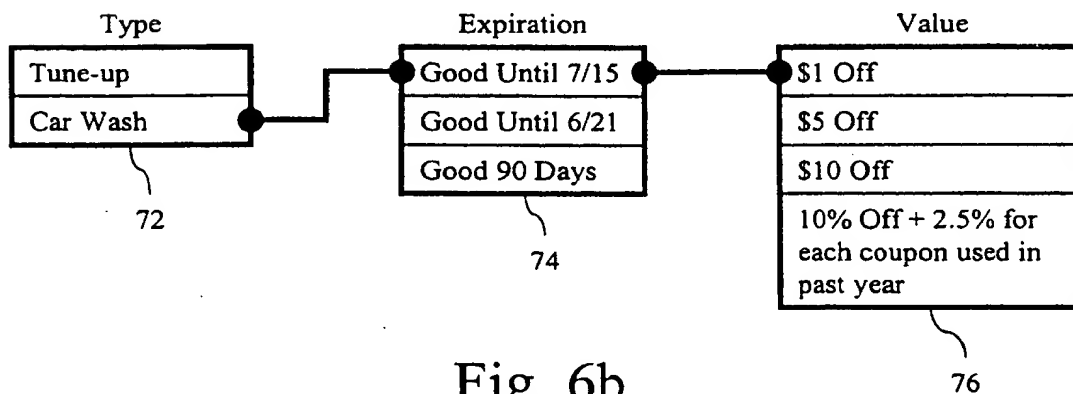


Fig. 6b

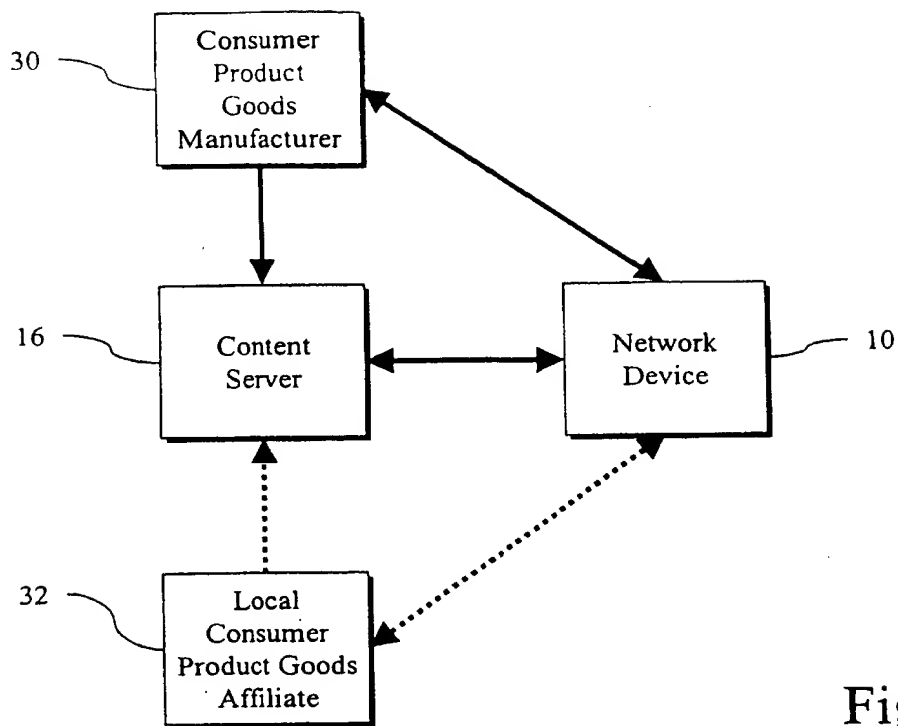


Fig. 3

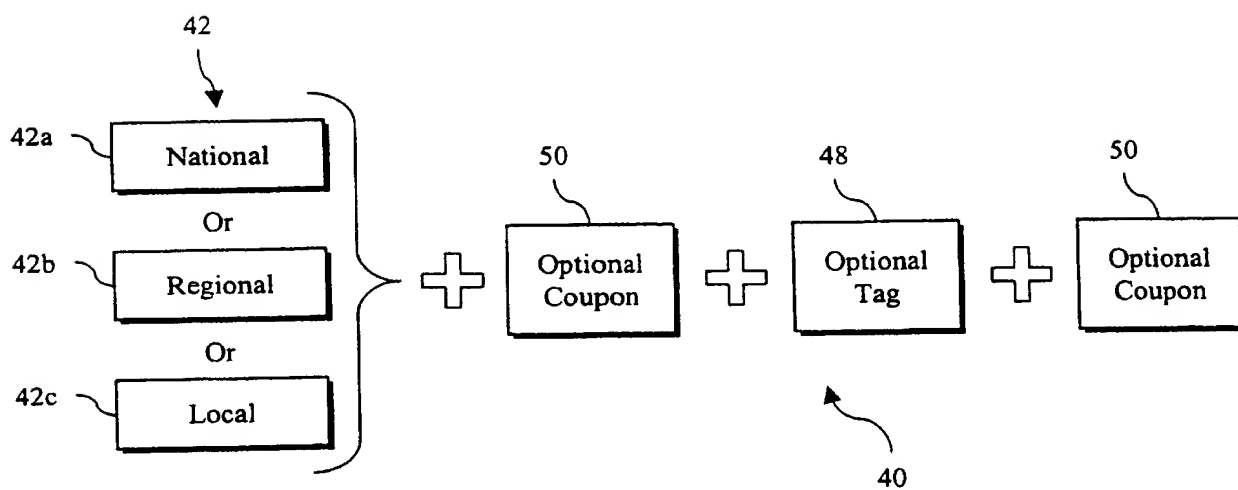


Fig. 4

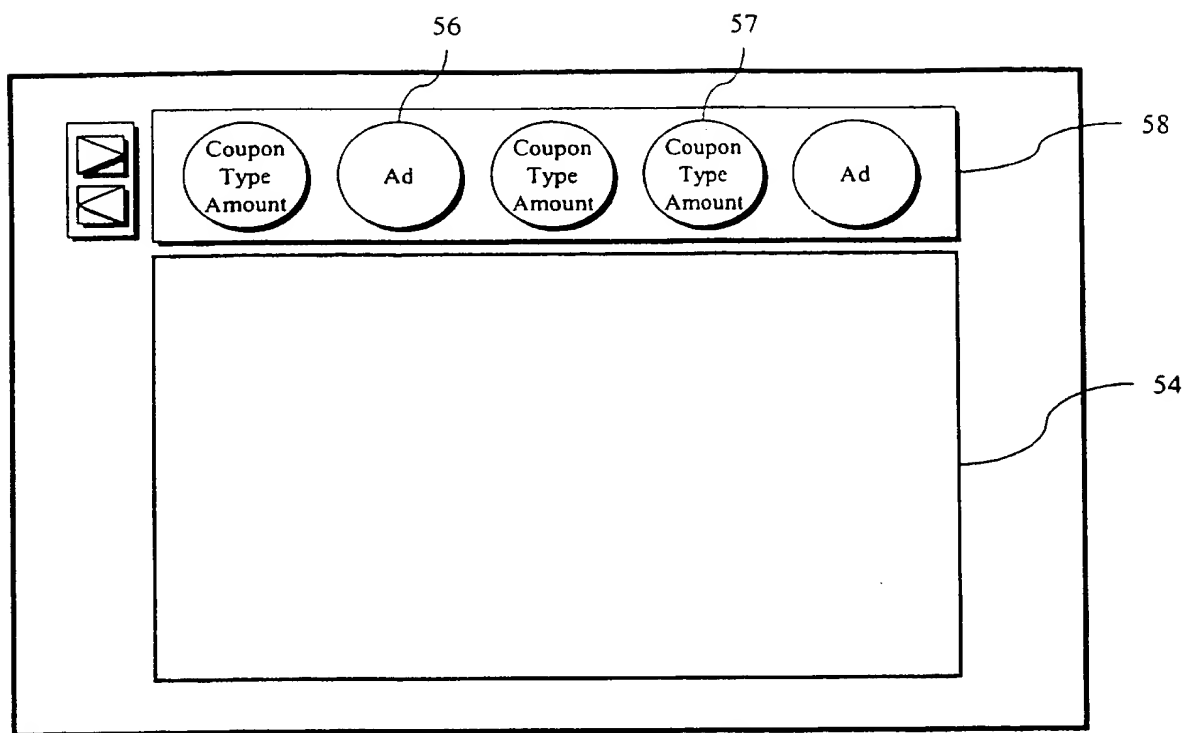


Fig. 5

Coupon Generator				
Select Coupon Type Oil Change <input type="checkbox"/> Tune Up <input type="checkbox"/> Car Wash <input type="checkbox"/> :	Expiration Good On: _____ [date] Good Until: _____ [date]	Coupon Value #% Discount + #% For Each Coupon Used By Consumer In Last Year	Quantity Enter Number of Coupons to Offer _____ #	Frequency <input type="checkbox"/> Date Range _____ <input type="checkbox"/> Day(s) of Week _____ <input type="checkbox"/> When _____ Is Selected
<input type="button" value="Cancel"/>		<input type="button" value="Apply"/>		

62 64 66 68 70

Fig. 6a

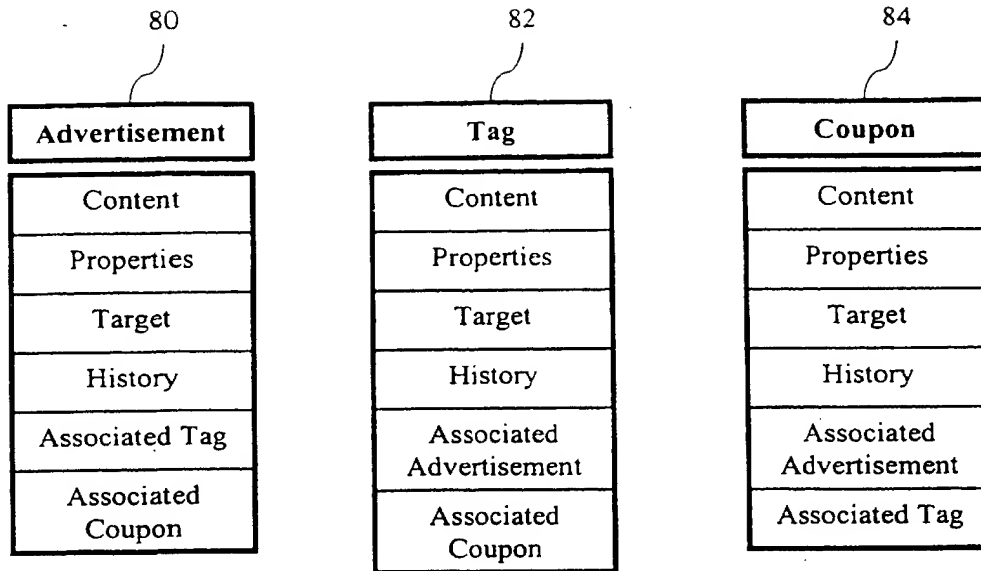


Fig. 7

Registration Type	Registration Data Examples
Required	Name, address, e-mail address, age, gender, connect speed, default media player
Optional	Hobbies, education, web purchases, marital status, children, type of car, planned purchases, occupation, income, birth date
Learned	Video selections, viewing habits, hot spots selected, coupons selected, advertisers visited

Fig. 8

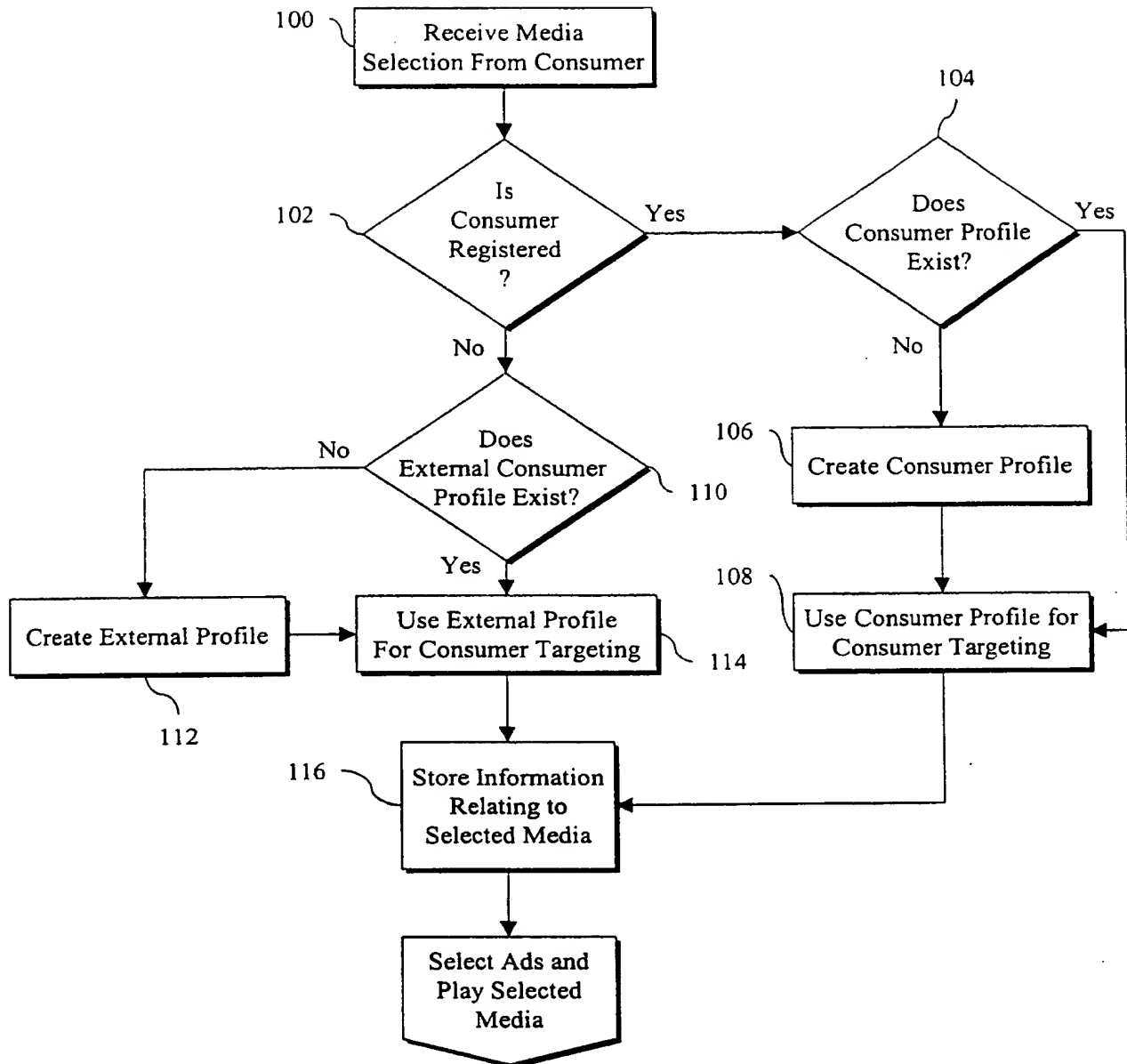


Fig. 9

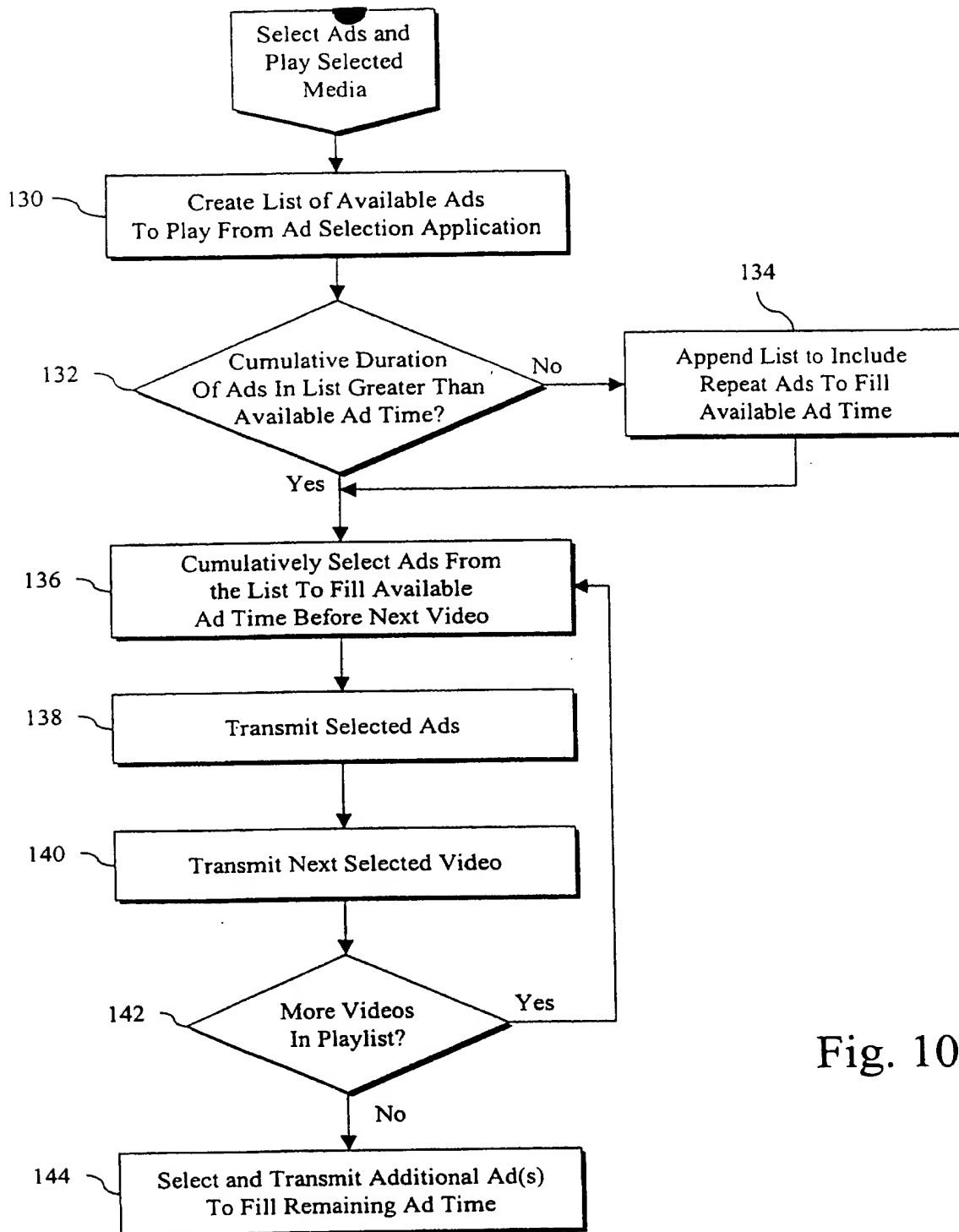


Fig. 10

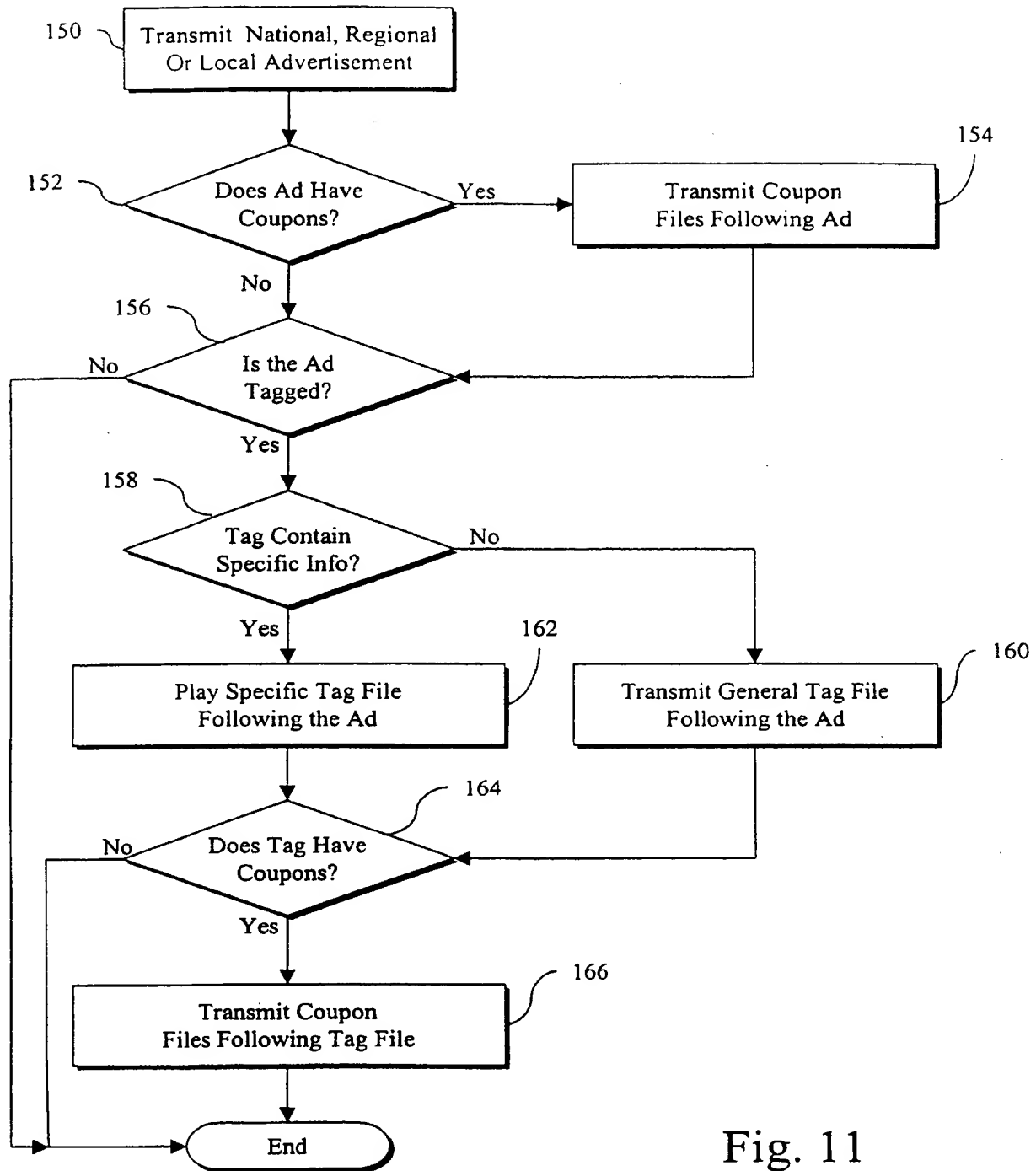


Fig. 11

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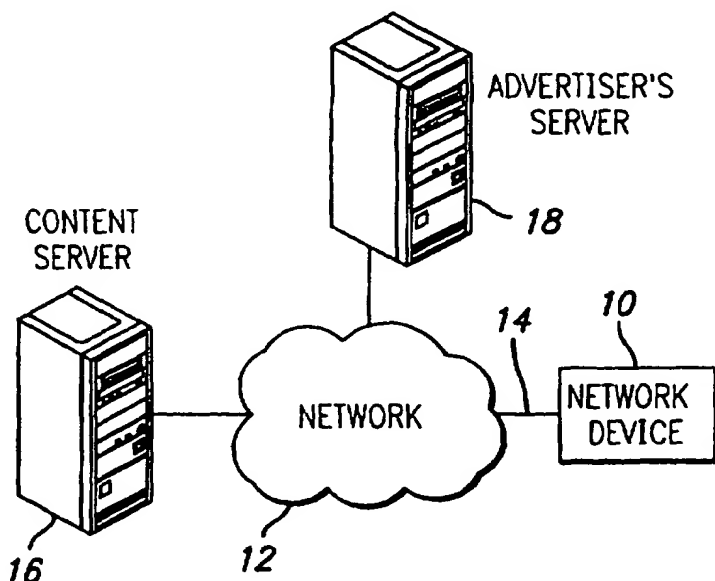
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(54) Title: DYNAMIC CREATION AND DELIVERY OF TARGETED ADVERTISEMENTS OVER A COMMUNICATIONS NETWORK



(57) Abstract: In a network including a network device and a content provider, a system and method are provided for creating and delivering personalized advertisements to the network device. The content provider stores a plurality of advertisements, each advertisement having an associated target audience. The content provider receives a request for data from the network device and determines consumer profile characteristics of the operator of the network device. Next, the content provider selects at least one of the stored advertisements based on its associated target audience and the consumer profile characteristics. Each advertisement includes an optional tag and an optional coupon. Each tag and coupon includes a target audience for more focused targeting of the advertisement to the consumer. The content of the coupons may be dynamically determined based on consumer profile characteristics. The requested data and selected advertisements, tag and coupons are then delivered to the network device. Iconic representations of advertisements and coupons may also be delivered.

WO 01/037189 A2



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

**DYNAMIC CREATION AND DELIVERY OF TARGETED
ADVERTISEMENTS
OVER A COMMUNICATIONS NETWORK**

BACKGROUND OF THE INVENTION

5 1. Field of the Invention

The present invention relates to targeted advertising and in particular to the dynamic creation and delivery of targeted advertisements over a communications network such as the Internet.

10 2. Description of Related Art

Advertisements developed for billboards, newspapers, magazines, television, radio, the Internet or other media are designed to deliver a general message to a broad audience. To increase the effectiveness of each advertisement, the advertiser typically targets a group of consumers that are likely to purchase its product or service, and places the advertisement in the media that are likely to reach that targeted group. For example, clothing manufacturers often place advertisements for their clothing lines in fashion magazines to target consumers who read these magazines before making clothing purchases. Another example of consumer targeting is the placement of an advertisement to reach consumers in a particular geographic region. For example, a television commercial for snow tires will probably be more effective if played in regions with regular snowfall, than if played in a tropical region.

Although traditional advertisements can be targeted to a relatively small subset of consumers, one drawback is that there is no direct correlation between the advertisement that is placed and the person who will view it. The advertisement may be viewed by any person, including persons who are not in the targeted group. Recent innovations in communications networks such as the Internet provide advertisers with the ability to identify individual consumers for their targeted advertisements. However, it is too expensive

and impractical through traditional advertising methods for an advertiser to create a separate advertisement for each consumer who may view it.

The Internet also allows for the delivery of specific content to individual consumers. For example, a computer user now has the ability to view videos
5 through the Internet that previously could only be viewed through a traditional television broadcast. Similar to a television broadcast, a video stream may be transmitted to the user's computer and played in real time, and/or the entire video may be stored on the user's computer for playback at the user's convenience. However, unlike traditional television broadcasts which are
10 preprogrammed with a sequence of programs and commercials targeted for a relatively broad audience, the Internet allows consumers to search, retrieve, and play individual videos they find on the Internet at any time, from any place, and in any order.

15 SUMMARY OF THE INVENTION

The present invention provides a system and method for dynamically creating targeted one-to-few or one-to-one advertisements to consumers over a communications network such as the Internet. A computer network includes a consumer operated network device and a content provider. The network
20 device is adapted to access the content provider through the computer network, allowing the network device to request and receive data from the content provider.

In a preferred embodiment, the content provider includes a computer system that stores video data, consumer profile information and an
25 advertisement database. The content provider uses the consumer profile information and advertisement database to dynamically assemble targeted advertisements for delivery to a consumer who requests video data from the content provider. In operation, the content provider first receives a request for data, such as a video file from the network device. The content provider next
30 determines consumer profile characteristics of the consumer operating the network device. Preferably, the content provider stores consumer profile data on each consumer that accesses its services, and updates this information

whenever new information is discovered about the consumer. For example, the consumer's profile data may be updated whenever a video is selected to track the types of videos that the consumer prefers.

5 Targeted advertisements may then be assembled for play with the selected video files on the network device. The advertisement database stores information for a plurality of advertisements, each advertisement having an associated target audience. Generally, if the consumer is a member of the targeted audience for an advertisement, then the advertisement may be selected. In a preferred embodiment, the consumer
10 profile data is compared to the target audience of each advertisement and if the target audience includes at least one of the consumer profile characteristics, then the advertisement may be added to an available advertisements list.

Each advertisement may include an optional tag and an optional
15 coupon. A tag is an advertising segment that is combined with an advertisement to create an advertisement that is more focused on a particular target audience. Each tag is stored by the content provider and includes a tag target audience and a link to an associated advertisement. For each advertisement in the available advertisement list, the target audiences of its
20 associated tags are compared to the consumer profile characteristics. If the consumer is a member of the target audience of one or more tags, then the tag that provides the best fit with the consumer is appended to the advertisement in the list.

A coupon is an automated advertisement that may be created in real
25 time based on the consumer profile characteristics. Each coupon is stored by the content provider and includes a coupon target audience and a link to an associated advertisement or tag. For each advertisement in the prioritized list, the target audience of its associated coupons are compared to the consumer profile characteristics. If the consumer is a member of the coupon
30 target audience of one or more coupons, then the coupon that best fits the consumer is appended to the advertisement. The coupons having associated tags are appended to the tags in a similar manner. The content of each

coupon may be predetermined or dynamically created based on consumer profile characteristics.

Advertisements may be scheduled to play before, during and after each requested video file. In the preferred embodiment, advertisements are played before and after each selected video file and available advertising time is set aside in advertisement blocks. Each advertisement block has a predefined duration and includes advertisements selected from the available advertisement list. The available advertisement list is sorted according to how well the consumer matches the target audience of each advertisement and any associated tags or coupons, and the advertisements are selected from the sorted list to best fill the duration. Advertisements from the sorted list may be selected multiple times if there are not enough advertisements in the sorted list to fill the total available advertising time. Each advertisement, tag and coupon also includes a set of properties that may affect where each advertisement is placed.

The content provider next delivers the requested video files and dynamically created advertisements to the network device. In the preferred embodiment, the network device receives a continuous flow of data from the content provider that may be played for the consumer over the network device. A first advertisement block is streamed over the network to the network device, followed by a first selected video file and a second advertisement block. The remaining selected videos and advertising blocks are streamed in a similar manner. In an alternate embodiment, the advertisement blocks are appended to the requested video file and the appended file is downloaded to the network device for viewing on the network device at a later time.

Each advertisement may include a hot spot, allowing the consumer to interact with the advertisement as it is played on the network device. In a preferred embodiment, each advertisement includes a hot spot for providing the consumer with additional information from the advertiser. When the consumer selects the hot spot, the network device sends a request to the content provider for the network address of the advertiser. Upon receiving the

request, the content provider logs the request in the consumer's profile and the advertisement database, and returns the advertiser's network address to the network device. The network device then accesses information from the advertiser over the network. Alternatively, the advertisement may include the
5 network address of the advertiser so that the network device may be directly connected to the advertiser when the hot spot is selected. Information concerning the selection of the hot spot may be stored locally on the network device and uploaded to the content provider at a later time.

In a preferred embodiment, the advertisement blocks further include
10 data that enable each advertisement and coupon to be iconically represented on the network device. As each advertisement is played on the network device, its associated icon, and the icon of any coupons associated with the advertisement, are added to a quicklist. By selecting an advertisement icon from the quicklist, the consumer may buy the advertised product, obtain more
15 information, visit the advertiser's web page or accomplish other tasks associated with the advertisement. By selecting a coupon icon, the consumer may view and print out the coupon. All information relating to the playing of the advertisements and videos, the consumer's selection of advertisement hot spots and icons, and the consumer's selection of coupon icons is tracked by
20 the content provider and used to update the consumer profile information.

A more complete understanding of the dynamic creation and delivery of targeted advertisements over a communications network will be afforded to those skilled in the art, as well as a realization of additional advantages and objects thereof, by a consideration of the following detailed description of the
25 preferred embodiment. Reference will be made to the appended sheets of drawings which will first be described briefly.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 illustrates a communications network in accordance with a preferred embodiment of the present invention;

30 Fig. 2 illustrates data transmitted from a content provider to a network device in accordance with a preferred embodiment of the present invention;

Fig. 3 is a block diagram illustrating the information flow for the creation and delivery of targeted advertisements in accordance with a preferred embodiment of the present invention;

Fig. 4 is a block diagram illustrating a preferred embodiment of an
5 advertising campaign;

Fig. 5 illustrates a sample display of a network device in accordance with a preferred embodiment of the present invention;

Figs. 6a and 6b illustrate a coupon generation screen and generated coupon in accordance with a preferred embodiment of the present invention;

Fig. 7 illustrates the types of advertising information that may be stored
10 for an advertising campaign;

Fig. 8 illustrates the types of consumer profile data that may be stored;

Fig. 9 is a flow diagram illustrating a preferred algorithm for selecting appropriate user profile information to be utilized in selecting targeted
15 advertisements;

Fig. 10 is a flow diagram illustrating a preferred algorithm for selecting targeted advertisements and playing selected advertisements along with selected videos; and

Fig. 11 is a flow diagram illustrating a preferred embodiment of an
20 algorithm for transmitting a selected advertisement to a network device.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

The present invention provides a system and method for dynamically creating targeted one-to-few or one-to-one advertisements to consumers over a communications network such as the Internet. In the detailed description
25 that follows, like element numerals are used to describe like elements illustrated in one or more of the aforementioned figures.

Fig. 1 illustrates a communications network in accordance with a first preferred embodiment of the present invention. At least one network device
10 is connected to a network 12, such as the Internet, through a communications link 14. The network device 10 is preferably a personal computer; however, in alternate embodiments the network device 10 may be
30

a television, a set-top-box, a cellular telephone, a beeper or any other device adapted to access the network 12. The communications link 14 is preferably a broadband connection such as a T1, DSL or ISDN line. As known in the art, broadband technology provides high-speed data transmission (generally
5 greater than 300 kb) and is commonly used for the transmission of voice and video across a network. Alternatively, the communications link 14 may be a satellite device, a wireless connection, a standard telephone line, an electrical line, a local area network, or any other method of providing communications between the network device 10 and the network 12.

10 At least one content server 16 is connected to the network 12. Preferably, the content server 16 is a web server providing World Wide Web services on the Internet 12, and includes a storage device for storing web pages, video content, advertising campaigns and consumer profile data. Although a single content server 16 is illustrated, it should be apparent that
15 the tasks performed by the content server and the information stored on the content server may be distributed over a plurality of devices located in multiple geographic regions. In operation, a consumer using the network device 10 accesses web pages from the content server 16 through the Internet 12. Through the web pages, the consumer may select and retrieve
20 one or more videos stored on the content server 16, and view the retrieved videos on the network device 10. The selected videos may be streamed across the Internet 12 and viewed on the network device 10 as it is received, or downloaded to the network device 10 for playback at a later time.

Before the selected videos are transmitted to the network device 10,
25 the content server 16 dynamically selects and creates one or more video advertisements targeting the user of the network device 10. The user viewing the selected videos will be presented with targeted video advertisements at selected times, preferably before and after each of the selected videos are played on the network device 10. A preferred embodiment of the data
30 transmitted from the content provider 16 to the network device 10 is illustrated in Fig. 2. As illustrated, the user selected a first video 20 and a second video 22 for viewing on the network device 10. The content provider 16 first

transmits a first advertisement block 24, followed by the first video 20, a second advertisement block 26, the second video 22 and finally a third advertisement block 28. Each advertisement block 24, 26 and 28 includes any number of advertisements generated as part of an advertising campaign.

- 5 When the transmitted data is played on the network device 10, advertisements will be played before and after each selected video.

The selected advertisements may include hot spots—i.e., parts of individual advertisements that are selectable by the user. A hot spot allows the user to interact with the advertisement and is typically utilized by
10 advertisers to provide the user with additional information from the advertiser. In a preferred embodiment, each advertisement includes a hot spot that causes the network device 10 to connect to the an advertiser's computer 18 (see Fig. 1) through the network 12. The advertiser's computer 18 stores the web pages that include additional content describing the advertiser's products
15 and services, and screens that allow the user to order an advertised product.

The selected advertisements may also include data that enable the advertisement to be iconically represented on the network device 10. In a preferred embodiment, this information includes a thumbnail image to iconically represent the advertisement plus a URL of a web page that provides
20 further information if the icon is selected. The icon may be a static or animated image. For example, as illustrated in Fig. 5, for each advertisement that is played in a viewing area 54 of a display 52 of the network device 10, an advertisement icon 56 associated with the advertisement is added to a quicklist 58. The quicklist 58 stores each advertisement icon available to the
25 user, thus enabling the user to click on an advertisement icon to buy the advertised product, obtain more information, visit the advertiser's web site or accomplish other tasks associated with the advertisement icon.

Fig. 3 illustrates the preferred information flow for the creation and delivery of targeted advertisements. A consumer product goods (CPG)
30 manufacturer 30 creates an advertising campaign for its products, purchases advertising time from the content provider, and transmits the advertising campaign to the content server 16. It is anticipated that the CPG 30 may

work with an advertising firm or other third parties who create the advertising content and purchase the advertising time. If the CPG 30 has local affiliates, such as local CPG 32, the local CPG 32 may create its own local advertising campaign in the form of tags and coupons that may be incorporated into the advertising campaign created for the CPG 30. The local CPG 32 may transmit its tags and coupons to the CPG 30 or directly to the content provider. It should be appreciated that the local CPG 32 may also create its own advertisements, independent from the CPG 30 advertising campaign.

A preferred embodiment of an advertising campaign will now be described with reference to Fig. 4. An advertising campaign 40 includes at least one advertisement 42, optional tags 48 and optional coupons 50. Preferably, the advertisement 42 includes video advertisements having clickable hotspots; however, the advertisement 42 may also include other types of advertisements that are playable over the network device 10 in addition to the video content selected by the user, such as interstitials, bumpers and promos.

Preferably, the advertising campaign 40 will include a plurality of advertisements 42 targeting consumers with various levels of specificity, such as national 42a, regional 42b and local 42c advertisements. The national advertisement 42a is designed to be played for any consumer regardless of residential location or consumer attributes. The regional advertisement 42b targets consumers in a certain geographical, demographic or psychographic audience. For example, a tire manufacturer may play a regional advertisement for snow tires to consumers in the Eastern United States. The local advertisement 42c is designed to target a group of consumers in a relatively small geographic, demographic or psychographic audience, such as residents of a particular city or county. It should be appreciated that the advertising campaign 40 may include any number of advertisements 42 targeting any combination of consumers, and that the national, regional and local advertisements described above are merely illustrative.

Each advertisement 42 may be appended with one or more optional tags 48, allowing additional content to be included in the advertisement 42

and more focused targeting of consumers. For example, if a tire manufacturer creates a national video advertisement promoting its new line of tires, a local tire retailer may create a video tag 48 that is played after the advertisement 42 to inform local consumers that the advertised tires may be purchased at its retail location.

One or more optional coupons 50 may be appended to either the advertisement 42 or the optional tag 48. Each coupon 50 is an automated promotion that can be dynamically created in real time based on a consumer's user profile and the target audience of its associated advertisement and tag.

For example, the local tire retailer may offer a coupon for free tire balancing with the purchase of four tires to consumers that are loyal customers of the local tire retailer. As illustrated in Fig. 5, for each advertisement that is played in the viewing area 54 of the display 52 of the network device 10, icons 57 representing the coupons associated with the advertisement are added to the quicklist 58. The quicklist 58 stores each coupon available to the user, thus enabling the user to retrieve and print valid coupons at a later time.

Each time a coupon is delivered to a consumer, a unique coupon key is created and stored by the content server 16. The user may print the coupon with the unique coupon key on a local printer, or alternatively, write down the unique coupon key for presentation to the local affiliate. The coupon key uniquely identifies the coupon, allowing the advertiser to confirm the validity and use of the coupon. Because the unique coupon key is generated when the coupon is delivered, the advertiser has feedback that links the advertisement delivery to the advertisement consumption.

Fig. 6a provides an example of a data entry screen that may be used by a local automobile dealer for defining a coupon to be associated with an automobile advertisement. In a preferred embodiment, a coupon is created by defining a coupon type 62, an expiration date 64, a value for the coupon 66, a quantity of coupons to offer 68, and a frequency with which to offer the coupons 70. It should be appreciated that the data needed to define a coupon will vary based on the industry, type of local affiliate and other factors.

Each selection on the data entry screen has an associated target audience, allowing the coupon to be dynamically created based on the current consumer profile. For example, the automobile dealer could set the target audience for tune-ups to local consumers who drive automobiles that the dealer is certified to service, and the target audience for oil changes to all other local consumers who own an automobile. When the automobile advertisement is selected for a consumer, a coupon will be dynamically generated based on the consumer's profile. Thus, the consumer will either receive a coupon for a tune-up or an oil change, or no coupon at all, depending on the automobile and residential information stored in the consumer's profile. The value field 66 provides another example of dynamic coupon creation. As illustrated, the value of the coupon is based on a calculation that rewards consumer loyalty to the automobile dealer. Thus, different consumers in the target group for a tune-up may receive different discounts on the tune-up depending on how often they have used coupons at the automobile dealer in the past year.

Fig. 6b illustrates a preferred embodiment for the creation of the dynamic coupon. Each data field 72-76 includes a list of selections defined by the automobile dealer, each selection having an associated target audience. It should be appreciated that any target audience defined for a coupon may include all consumers. One selection from each data field 72-76 is chosen based on a comparison between its target audience and the consumer profile. If the consumer profile matches more than one selection on a data field 72-76, then a selection is chosen based on a determination of priority, which may include choosing the most valuable coupon. In the preferred embodiment, the selections chosen in certain fields may also depend on the prior selections chosen from other fields. For example, the automobile dealer may offer up to \$10 off of a tune-up, but limit the discount to \$5 off of a car wash.

As discussed above, in a preferred embodiment the content server 16 includes storage for advertisement information and consumer profile data. Fig. 7 illustrates the type of advertising information that is stored for advertisements 80, tags 82 and coupons 84. Each advertisement 80, tag 82

and coupon 84 has related content, properties, consumer targets and history data. The content data includes the actual content played for the consumer on the network device 10, such as a video file storing a video advertisement, the data describing a coupon and/or a link to a manufacturer's web site.

5 Stored properties may include the length of each advertisement, the number of times each advertisement should be played, and the type of products advertised. Each advertisement 80, tag 82 and coupon 84 also has an associated target consumer group, which is defined by its consumer target data. The consumer target data may specify that all consumers should be

10 targeted, or may specify a geographic region in which to play the content, a date and time for playing the content, or other information that may be used to target a particular group of consumers. The history data is used for tracking information such as the dates and times that the content has been played, the number of times the content has been played, and the characteristics of

15 consumers that have clicked through the played content. Each advertisement 80 further includes a list of associated tags 82 and/or coupons 84 that may be appended to the advertisement 80. Similarly, each tag 82 includes a list of associated advertisements 80 to which the tag may be appended and a list of coupons 82 that may be appended to the tag 82, and each coupon 84

20 includes a list of associated advertisements 80 and/or tags 82 to which the coupon 84 may be appended.

Fig. 8 illustrates the types of consumer profile data that are stored by the content server 16 in a preferred embodiment of the present invention. The consumer profile data includes required information 90, optional

25 information 92 and learned information 94. When a user registers to use the content server 16, the user will be required to provide certain information 90 for purposes of user identification (e.g., user name, e-mail address), consumer targeting (e.g., user's gender, age) and user system information (e.g., connect speed, default media player). A registered user may optionally

30 provide additional information 92 that can be utilized by the content server 16 to better target the user's interests. The content server 16 is also programmed to learn certain user preferences based on the user's prior video

selection and response to played advertisements. In a preferred embodiment, the content server 16 will store learned user preferences of both registered and unregistered users.

The content server 16 further includes program storage, such as
5 random access memory or a hard disk drive, for storing computer program instructions executed by the content server 16. The flow diagram illustrated in Fig. 9 is a preferred software algorithm executed by the content server 16 for selecting the appropriate consumer profile information to be utilized in selecting targeted advertisements. At step 100, the content server 16
10 receives a request from a consumer using network device 10 to view one or more videos stored on the content server 16. Next, the consumer is identified and a determination is made as to whether the consumer is a registered user of the content server 16 (step 102). As known in the art, a consumer's identity can be established through the IP address or MAC address of the network
15 device 10, by requiring a login and password, or through other identifiers. If the consumer is a registered user, then a determination is made (step 104) whether a consumer profile exists for the consumer. If no consumer profile exists, then a new consumer profile is created at step 106. Typically, a consumer profile is created by asking the consumer to provide personal
20 information, such as the information described in Fig. 8. At step 108, the registered consumer profile is selected for consumer targeting of advertisements.

Referring back to step 102, if the consumer is not a registered user, then the content server 16 searches for an external consumer profile at step
25 110. In the preferred embodiment, learned information concerning every user of the content provider 16, including unregistered users, is stored in a consumer profile. If no external consumer profile can be found, then a new external consumer profile is created in step 112. The external user profile associated with the consumer is selected in step 114 for consumer targeting
30 of advertisements. At step 116, information learned from the consumer's current video requests are stored in the selected consumer profile. In a preferred embodiment, each video stored on the content provider 16 has

associated data describing the subject matter of the video (e.g., sports, automobiles), the length of the video and any other information that may be useful to understanding the consumer's preferences.

Fig. 10 illustrates a preferred software algorithm executed by the content server 16 for selecting the targeted advertisements and transmitting the selected advertisements along with the selected videos. At step 130, the content server 16 creates a list of available advertisements. The selection of advertisements for this list may be based on various criteria, including the selected consumer profile and each advertisement's properties and target audience. In a preferred embodiment, the data stored in the selected consumer profile is compared to the consumer target data associated with each advertisement. When a match is found (i.e., the consumer is a member of the target audience) the advertisement is added to the list of available advertisements. Next, the consumer target data for each tag associated with the advertisements on the list is compared to the selected consumer profile. If the consumer is a member of the tag's target audience then the tag is appended to its associated advertisement; otherwise, a general tag will be appended. Finally, the consumer target data for each coupon associated with the advertisements and tags in the list are compared to the selected consumer profile. If the consumer is a member of the coupon's target audience, then a new coupon is created and appended to its associated advertisement and/or tag. The list of available advertisements is then ranked by the degree in which each advertisement (with its associated tags and coupons) matches the selected user profile. The more precise the match, the higher the rank. It is anticipated that other factors may also be included in ranking the advertisements. For example, an advertisement that was recently viewed by the consumer may be given a lower priority than an advertisement the consumer has not yet viewed. The advertisements may further be prioritized based on factors such as the amount paid by the advertiser for the placement of the advertisement, the presence of competitive advertisements on the list, and the frequency with which each advertisement has been played.

In the preferred embodiment, a predetermined amount of time is set aside before and after each selected video for the playing of advertisements. The amount of time set aside may be based on many factors such as the selected user profile (e.g., the consumer's abandonment rate), the length of the selected videos, and the popularity of the selected videos. At step 132, the cumulative length of the list of prioritized advertisements is compared to the total available advertisement time. If the list of prioritized advertisements is less than the available advertisement time, then the list of prioritized advertisements is appended to include repeat advertisements to fill in the remaining advertisement time (step 134). At step 136, the advertisements from the list of prioritized advertisements are selected one-by-one until the available advertising time before the first selected video is filled. Next, at step 138, the selected advertisements are transmitted to the network device 10, followed by the next selected video at step 140. Steps 136-142 repeat until all of the selected videos have been transmitted to the network device 10. After the final selected video is transmitted, additional advertisements are selected from the prioritized list of advertisements and transmitted to the network device 10 to fill the remaining advertisement time (step 144).

In an alternative embodiment, the advertisements and the video content are stored into a playlist which includes the user's identification, specific file name or location of the file to play (i.e., complete URL or directory address), and the date, time or order that the items are to be played. The playlist may be stored in the network device 10, the content provider 16 or other device accessible through the network 12 and accessed by the user at any time.

Fig. 11 illustrates a preferred embodiment of an algorithm executed by the content server 16 when transmitting a selected advertisement. At step 150, the national, regional, or local advertisement file is transmitted. Next, if the advertisement has one or more associated coupons, then the coupons are transmitted after the advertisement (steps 152 & 154). At step 156, a determination is made as to whether the advertisement has an associated tag. If there is a tag, a determination is made at step 158 as to whether there

is specific tag information. If no specific tag information exists, then a general tag file is transmitted following the advertisement (step 160). If specific tag information is present, then the specific tag file is transmitted after the advertisement and any associated coupons (step 162). Finally, if the tag has
5 one or more associated coupons (step 164), then the associated coupons are transmitted in step 166.

Having thus described a preferred embodiment of dynamic creation of targeted advertisements over a communications network, it should be apparent to those skilled in the art that certain advantages of the within
10 described system have been achieved. It should also be appreciated that various modifications, adaptations, and alternative embodiments thereof may be made within the scope and spirit of the present invention.

The scope of the present invention is defined by the following claims.

CLAIMS

What is Claimed:

1. In a network including a network device and a content provider, a computer-implemented method performed by the content provider of
5 creating and delivering personalized advertisements to the network device, comprising the steps of:

storing a plurality of advertisements, each stored advertisement having an associated target audience;

receiving a request for video data from the network device;

10 determining consumer profile characteristics of the operator of the network device;

selecting at least one of the stored advertisements based on the advertisement's associated target audience and the consumer profile characteristics, wherein the operator of the network device is a member of
15 each selected advertisement's associated target audience; and

delivering the requested video data and the selected at least one of the stored advertisements to the network device.

2. The method of Claim 1 wherein the step of delivering comprises the steps of:

20 streaming a first subset of the selected advertisements to the network device;

streaming the video data to the network device; and

streaming a second subset of the selected advertisements to the network device;

25 whereby the network device receives a continuous flow of data from the content provider for playing the selected advertisements and requested video over the network device.

3. The method of Claim 1 wherein the selected advertisements are appended to the requested video data and the step of delivering comprises
30 downloading the appended data to the network device.

4. The method of Claim 1 further comprising the step of updating the user profile information based on the requested video data.

5. The method of Claim 1 further comprising the step of updating the user profile information based on the selected advertisements.

5 6. The method of Claim 1 wherein the step of selecting comprises the steps of:

comparing the consumer profile characteristics to the target audience of each advertisement, and if the target audience includes at least one of the consumer profile characteristics, adding the associated advertisement to a prioritized list of advertisements; and

10 choosing at least one advertisement from the prioritized list of advertisements.

7. The method of Claim 6 wherein the step of selecting further comprises the steps of:

15 sorting the prioritized list of advertisements according to the degree to which each advertisement's associated target audience matches the consumer profile characteristics;

wherein the at least one advertisement chosen from the prioritized list has an associated target audience that best matches the consumer profile characteristics.

20 8. The method of Claim 7 wherein the step of selecting further comprises the steps of:

defining at least one advertisement block, each advertising block having an associated duration;

25 wherein a subset of advertisements from the prioritized list are added to each defined advertisement block, each subset of advertisements having a total duration that is less than or equal to the duration of its associated advertisement block.

9. The method of Claim 1 further comprising the steps of:
storing a plurality of tags, each stored tag having an associated advertisement and a tag target audience; and
for each selected advertisement, comparing the tag target audience of each associated tag to the consumer profile characteristics and if the operator is determined to be a member of the tag's target audience, selecting the tag;
wherein the step of delivering further comprises the step of delivering each selected tag to the network device.
10. The method of Claim 9 further comprising the steps of:
storing a plurality of coupons, each stored coupon having a coupon target audience and at least one of an associated advertisement or associated tag;
for each selected advertisement, comparing the coupon target audience of each associated coupon to the consumer profile characteristics and if the operator is a member of the coupon's target audience, selecting the coupon; and
for each selected tag, comparing the coupon target audience of each associated coupon to the consumer profile characteristics and if the operator is a member of the coupon's target audience, selecting the coupon;
wherein the step of delivering further comprises the step of delivering each selected coupon to the network device.
11. The method of Claim 10 wherein the content of at least one selected coupon is dynamically generated based on the consumer profile characteristics.
12. The method of Claim 1 further comprising the steps of:
storing a plurality of coupons, each stored coupon having a coupon target audience and an associated advertisement;
for each selected advertisement, comparing the coupon target audience of each associated coupon to the consumer profile characteristics

and if the operator is determined to be a member of the coupon's target audience, selecting the coupon; and

wherein the step of delivering further comprises delivering each selected coupon to the network device.

5 13. The method of Claim 12 wherein the content of at least one selected coupon is dynamically generated based on the consumer profile characteristics.

 14. The method of Claim 13 wherein each selected coupon includes a unique validation code.

10 15. In a computer network, a content server comprising:
 means for storing video files and advertisements, each advertisement having an associated target audience;
 means for receiving a request for a video file from the network;
 means for generating and maintaining a consumer profile that
15 identifies characteristics of the requester of the video file;
 means for using the targeted audience for each advertisement and the consumer profile of the requester to select advertisements that target the requester;
 means for appending the selected advertisements to the
20 requested video file; and
 means for delivering the appended file to the requestor.

 16. The content server of Claim 15 wherein at least one selected advertisement includes a hot spot linking the requestor to the content server and requesting a network address when the hot spot is activated by the
25 requestor, and wherein the content server further comprises:
 means responsive to the request for a network address for determining a network address of an advertiser associated with the advertisement and transmitting the determined network address to the requestor;

whereby the requestor accesses the advertiser through the received network address.

17. In a network including a network device, a content server comprising:

- 5 a processor;
- a storage system connected to the processor, the storage system including storage space for storing video files and advertisements, each advertisement having an associated target audience; and
- a program memory connected to the processor and having
- 10 program instructions stored therein for instructing the processor to perform steps comprising:
 - receiving a request for video files from the network;
 - identifying the network device that initiated the video file
 - request;
 - 15 determining consumer profile characteristics of the operator of the network device;
 - selecting at least one of the stored advertisements based on its associated target audience and the consumer profile characteristics, wherein the operator of the network device is a
 - 20 member of each selected advertisement's associated target audience; and
 - delivering the requested video files and selected advertisements to the network device through the network.

18. The content server of Claim 17 wherein the step of delivering
- 25 further comprises the steps of:
 - streaming a first subset of the selected advertisements to the network device;
 - streaming the video file to the network device; and
 - streaming a second subset of the selected advertisements to the
 - 30 network device;

whereby the network device receives a continuous flow data from the content provider for playing over the network device.

19. The content server of Claim 17 wherein the storage system further includes storage memory for storing tags, each stored tag having a tag
5 target audience and an associated advertisement; and

wherein the program memory further comprises program instructions for instructing the processor to perform the step of, for each selected advertisement, comparing the tag target audience of each associated tag to the consumer profile characteristics and if the operator is
10 determined to be a member of the tag's target audience, selecting the tag; and

wherein the step of delivering further comprises delivering the selected tags to the network device through the network.

20. The content server of Claim 17 wherein the storage system
15 further includes storage memory for storing coupons, each stored coupon having a coupon target audience and an associated advertisement; and

wherein the program memory further comprises program instructions for instructing the processor to perform the step of, for each selected advertisement, comparing the coupon target audience of each
20 associated coupon to the consumer profile characteristics and if the operator is determined to be a member of the coupon's target audience, selecting the coupon; and

wherein the step of delivering further comprises delivering the selected coupons to the network device through the network.

21. The content server of Claim 20 wherein the content of at least
25 one select coupon is dynamically generated based on the consumer profile characteristics.

22. A computer program product embodying computer program instructions for execution by a computer system storing a plurality of

advertisements, each advertisement having an associated target audience, said instructions comprising:

- receiving a request for video data from a network;
- identifying a source of the video data request;
- 5 determining consumer profile characteristics associated with the source;
- selecting at least one stored advertisement based on its associated target audience and the consumer profile characteristics; and
- delivering the requested video data and selected advertisements
- 10 to the requestor.

23. The computer program product of Claim 22 wherein said instructions further comprise the step of:

- creating a coupon for at least one selected advertisement, the content of the coupon being selected based on the consumer profile
- 15 characteristics;
- wherein the step of delivering further comprises delivering the created coupon to the requestor.

24. In a network including a network device and a content provider, a computer-implemented method performed by the content provider of

20 creating and delivering personalized coupons to the network device, comprising the steps of:

- storing a plurality of coupons, each stored coupon having an associated target audience;
- receiving a request for video data from the network device;
- 25 determining consumer profile characteristics of the operator of the network device;
- selecting at least one of the stored coupons based on the coupon's associated target audience and the consumer profile characteristics, wherein the operator of the network device is a member of each selected
- 30 coupon's associated target audience;

dynamically creating the content of at least one of the selected coupons based on the consumer profile characteristics; and
delivering the requested video data and each selected coupon to the network device.

- 5 25. The method of Claim 24 further comprising the steps of:
 storing a plurality of advertisements, each stored advertisement having an associated target audience;
 selecting at least one of the stored advertisements based on the advertisement's associated target audience and the consumer profile
10 characteristics, wherein the operator of the network device is a member of each selected advertisement's associated target audience;
 wherein each selected coupon is associated with at least one selected advertisement; and
 wherein the step of delivering further comprises delivering each
15 selected advertisement to the network device.

26. The method of Claim 25 wherein the step of delivering further comprises delivering iconic representations of the selected advertisements, the iconic representations being selectable by the operator when displayed on the network device.

- 20 27. The method of Claim 26 further comprising the step of receiving notification that an icon has been selected by the operator.

28. The method of Claim 27 further comprising the step of updating the consumer profile characteristics based on the selection of the icon.

- 25 29. The method of Claim 28 wherein each icon includes at least one associated action selected from a group consisting of buy now, show more information or go to advertiser web page.

30. The method of Claim 24 wherein the step of delivering further comprises delivering iconic representations of the selected coupons, the

iconic representations being selectable by the operator when displayed on the network device.

31. The method of Claim 30 further comprising the step of receiving notification that an icon has been selected by the operator.

5 32. The method of Claim 31 further comprising the step of updating the consumer profile characteristics based on the selection of the icon.

33. The method of Claim 32 further comprising the steps of:
storing a plurality of advertisements, each stored advertisement having an associated target audience;
10 selecting at least one of the stored advertisements based on the advertisement's associated target audience and the consumer profile characteristics, wherein the operator of the network device is a member of each selected advertisement's associated target audience;
wherein each selected coupon is associated with at least one
15 selected advertisement; and
wherein the step of delivering further comprises delivering each selected advertisement to the network device.

34. The method of Claim 33 wherein the step of delivering further comprises delivering an iconic representation of each selected advertisement,
20 each iconic representation being selectable by the operator when displayed on the network device.

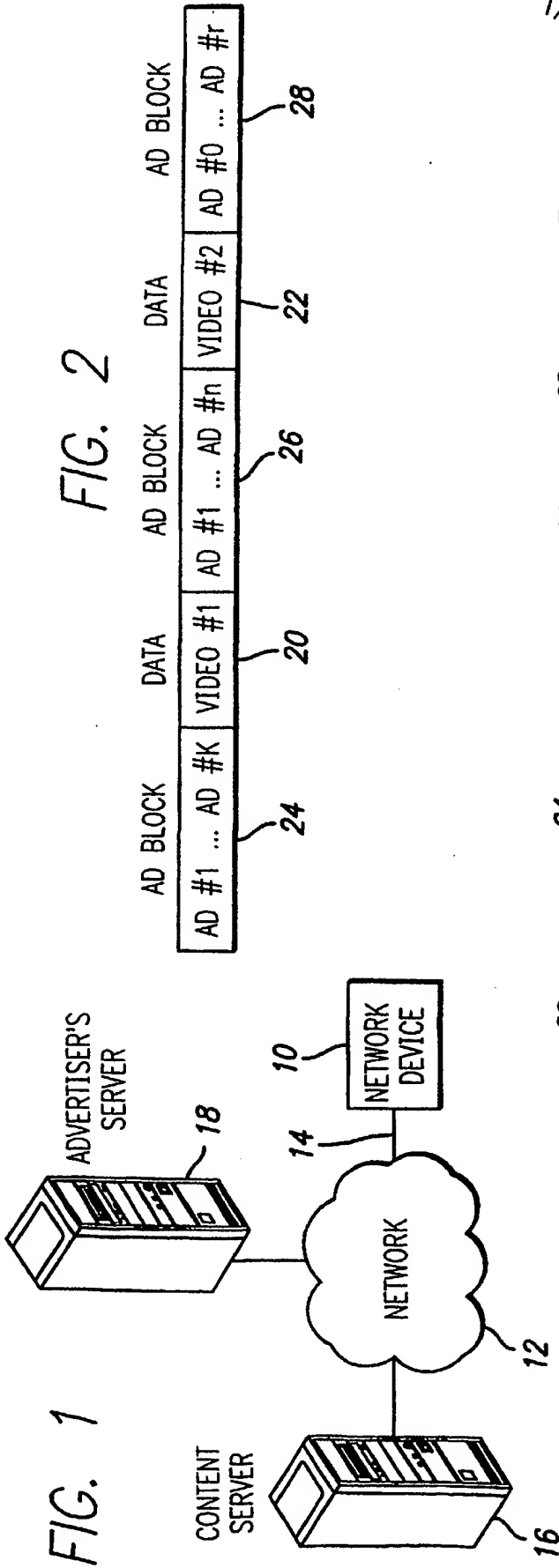


FIG. 2

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COUPON GENERATOR

62 SELECT COUPON TYPE

OIL CHANGE ☐

TUNE UP ☐

CAR WASH ☐

...

64 EXPIRATION

GOOD ON: [DATE]

GOOD UNTIL: [DATE]

66 COUPON VALUE

#% DISCOUNT + #% FOR EACH COUPON USED BY CONSUMER IN LAST YEAR

68 QUANTITY

ENTER NUMBER OF COUPONS TO OFFER

#

70 FREQUENCY

☐ DATE RANGE

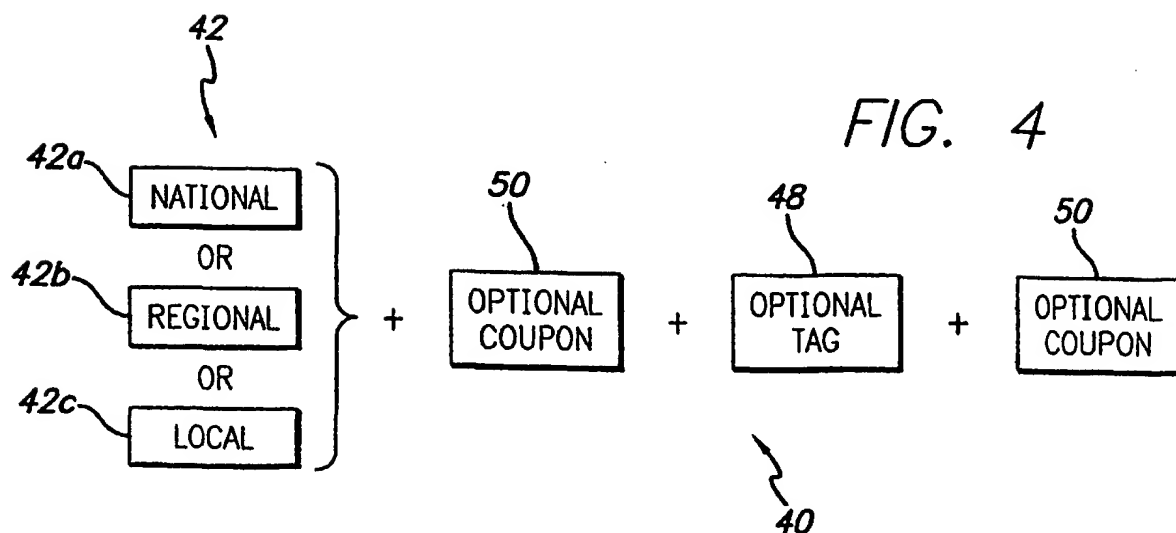
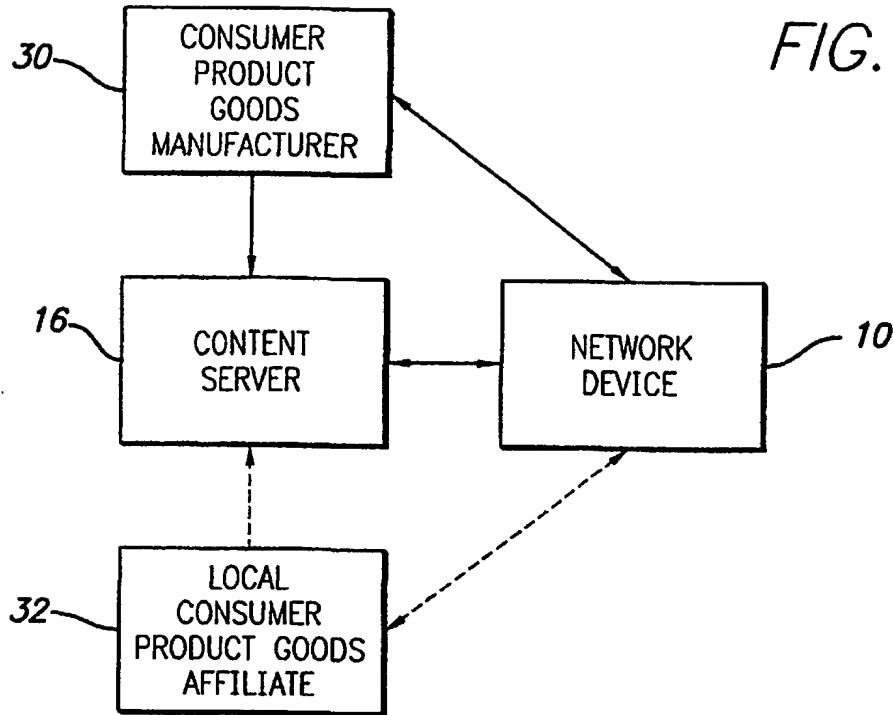
☐ DAY(S) OF WEEK

☐ WHEN IS SELECTED

CANCEL **APPLY**

FIG. 6a

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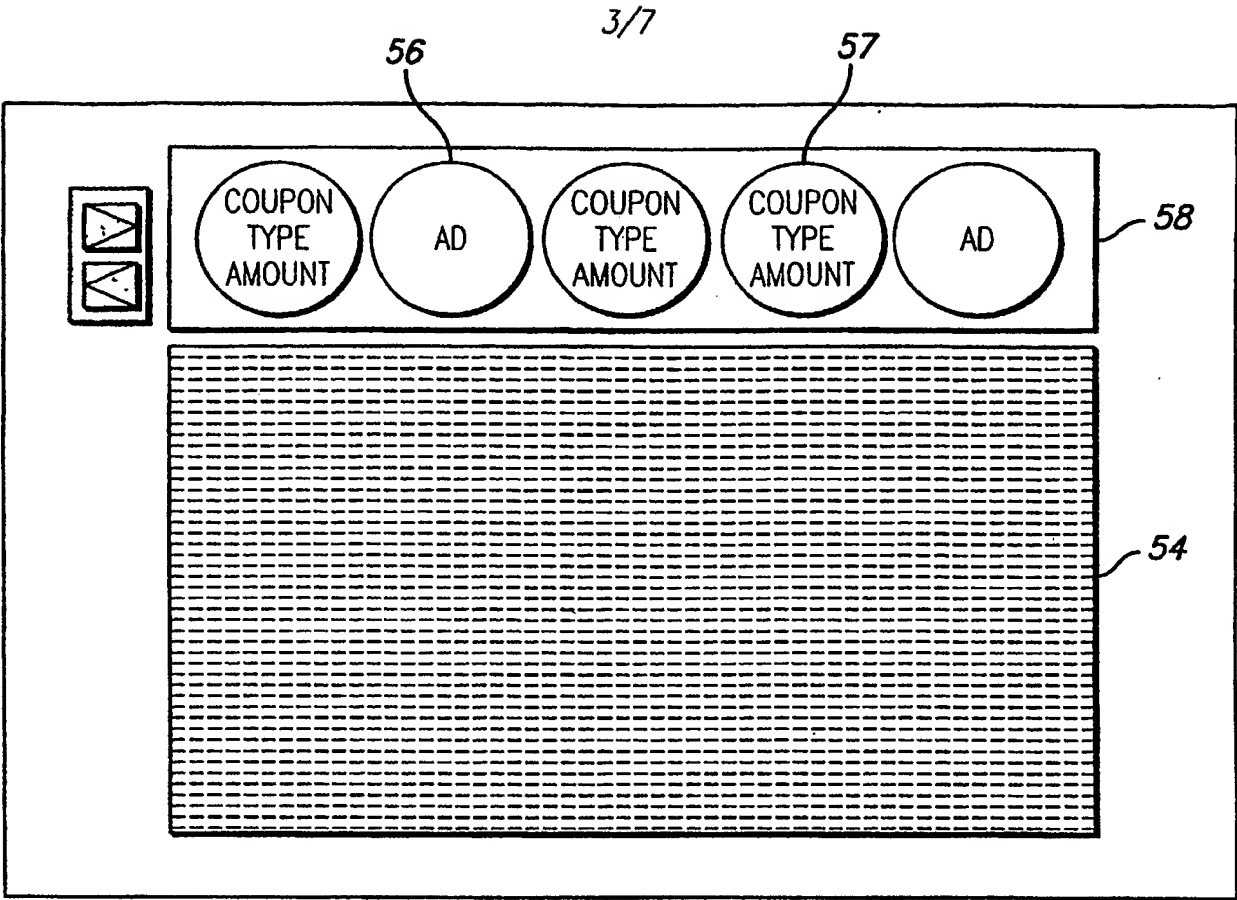
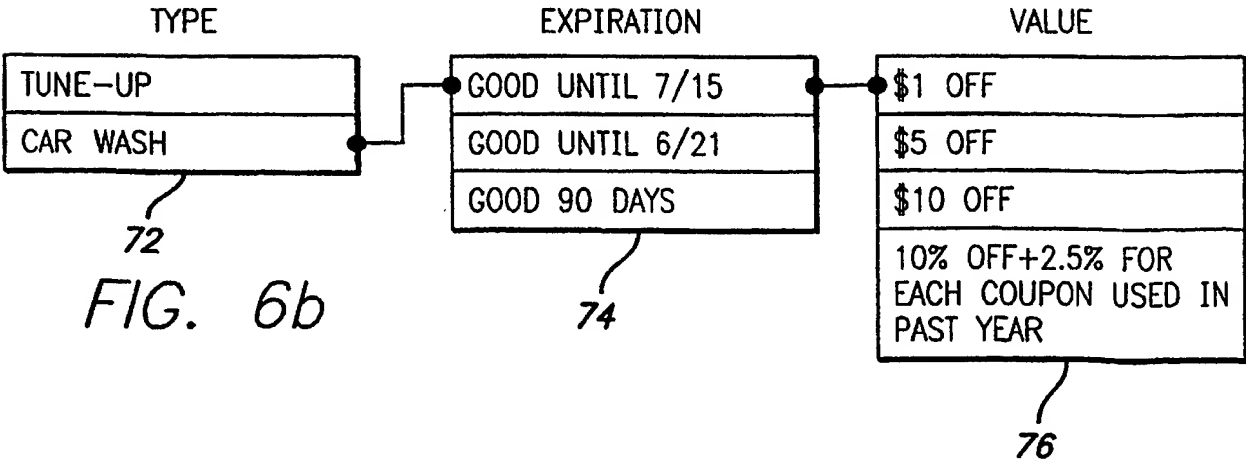


FIG. 5



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FIG. 7

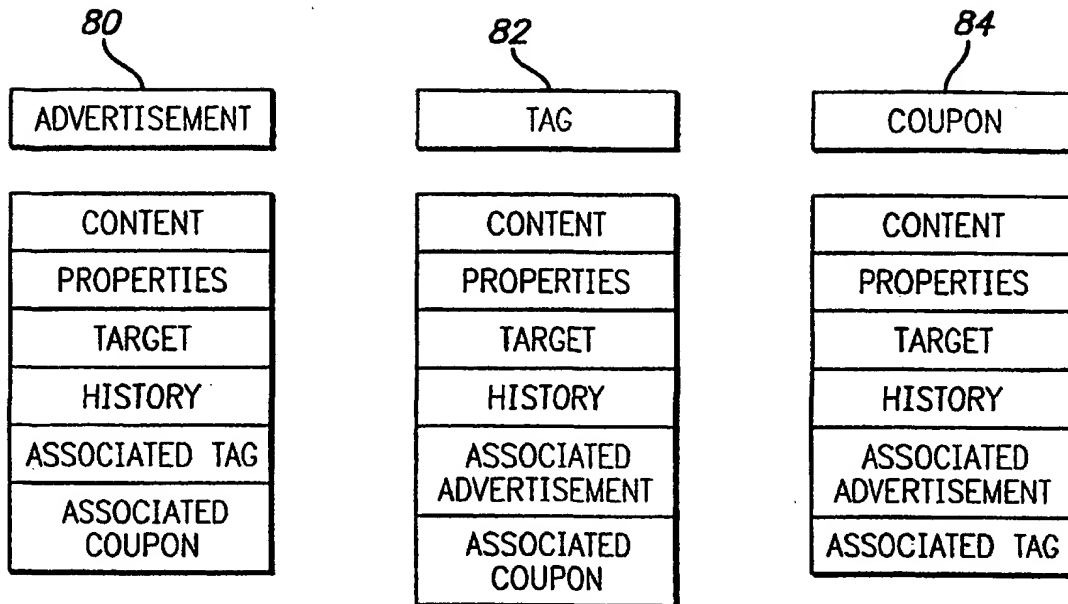


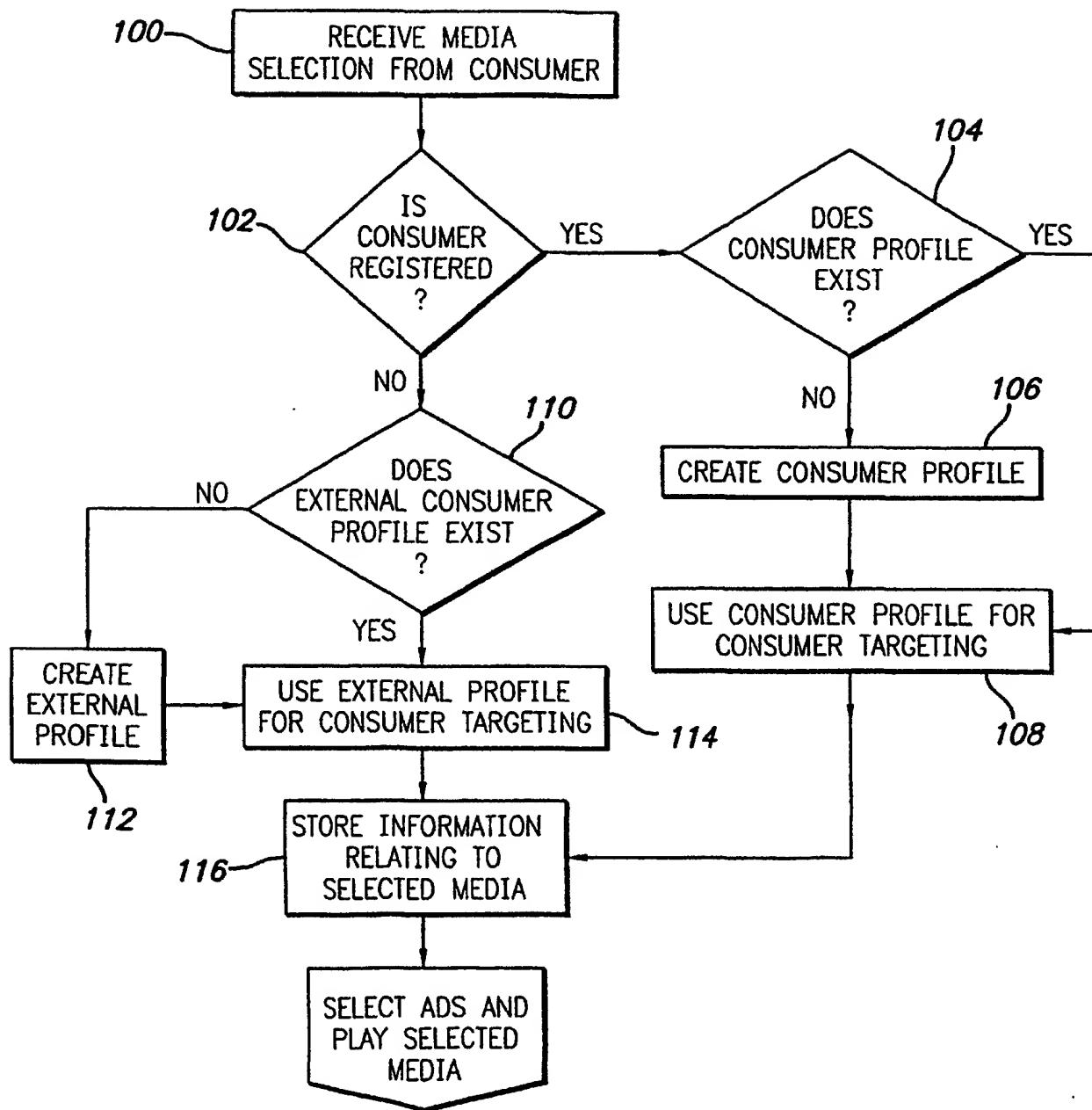
FIG. 8

90	REGISTRATION TYPE	REGISTRATION DATA EXAMPLES
	REQUIRED	NAME, ADDRESS, E-MAIL ADDRESS, AGE, GENDER, CONNECT SPEED, DEFAULT MEDIA PLAYER
92	OPTIONAL	HOBBIES, EDUCATION, WEB PURCHASES, MARITAL STATUS, CHILDREN, TYPE OF CAR, PLANNED PURCHASES, OCCUPATION, INCOME, BIRTH DATE
94	LEARNED	VIDEO SELECTIONS, VIEWING HABITS, HOT SPOTS SELECTED, COUPONS SELECTED, ADVERTISERS VISITED

SUBSTITUTE SHEET (RULE 26)

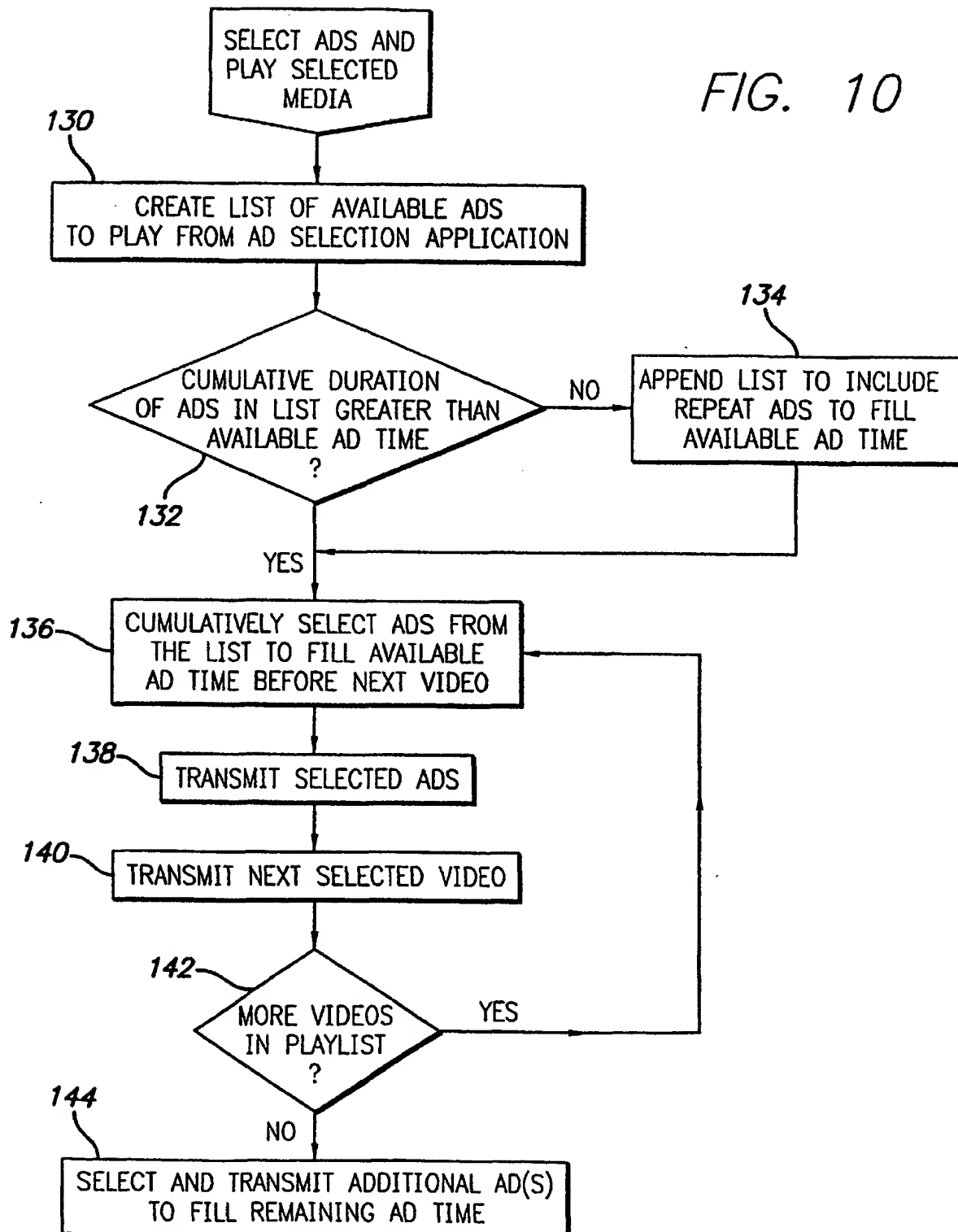
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FIG. 9



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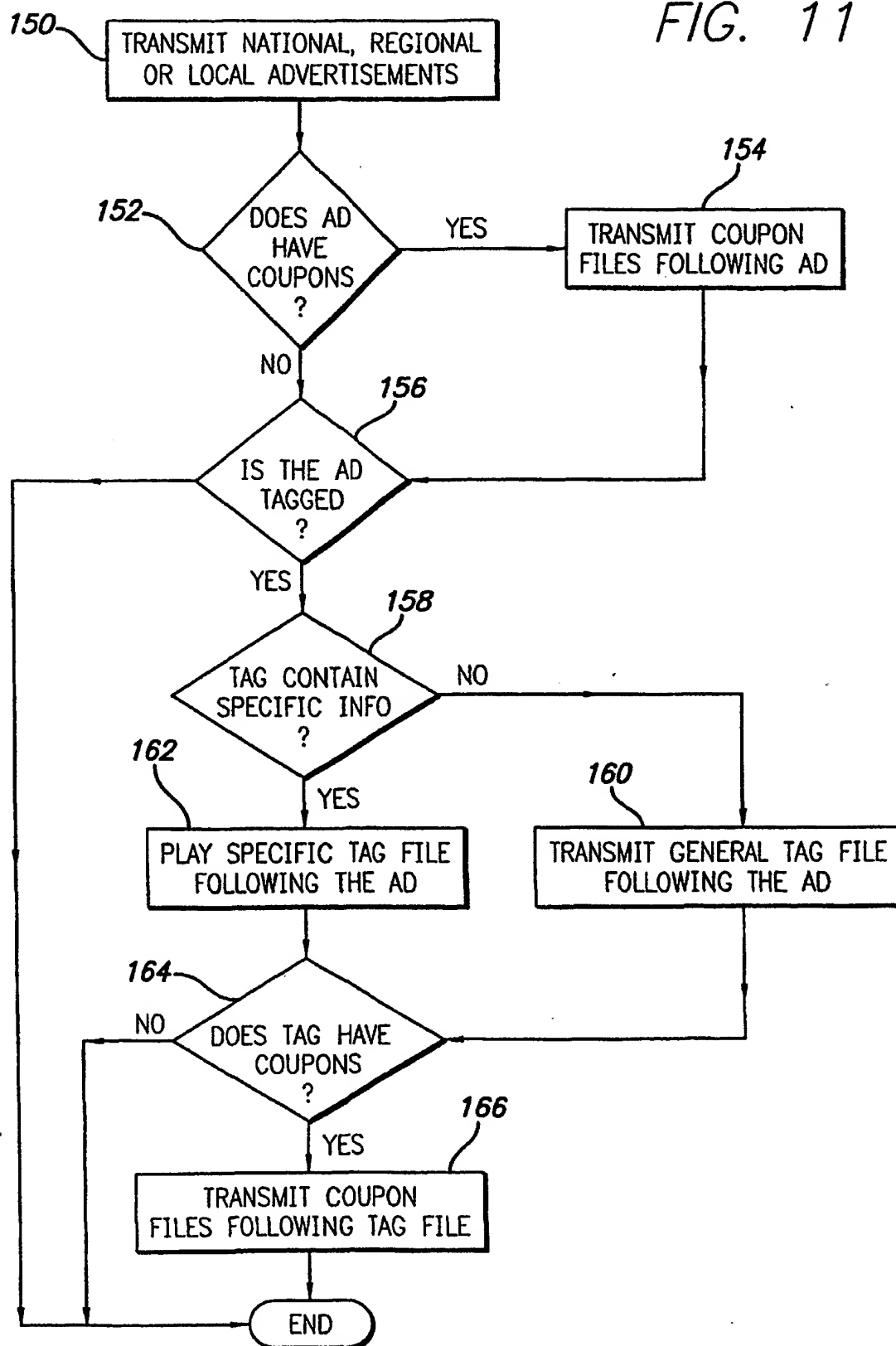
FIG. 10



SUBSTITUTE SHEET (RULE 26)

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FIG. 11



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2899 (US). For two-letter codes and other abbreviations, refer to the "Guid-
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ning of each regular issue of the PCT Gazette.



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(54) Title: DYNAMIC CREATION AND DELIVERY OF TARGETED ADVERTISEMENTS OVER A COMMUNICATIONS NETWORK

(57) Abstract:

PATENT COOPERATION TREATY

PCT

DECLARATION OF NON-ESTABLISHMENT OF INTERNATIONAL SEARCH REPORT

(PCT Article 17(2)(a), Rules 13ter.1(c) and Rule 39)

Applicant's or agent's file reference -386110-6	IMPORTANT DECLARATION	Date of mailing(day/month/year) 06/06/2002
International application No. PCT/US 00/ 42164	International filing date(day/month/year) 15/11/2000	(Earliest) Priority date(day/month/year) 17/11/1999
International Patent Classification (IPC) or both national classification and IPC		G06F17/60
Applicant HITPLAY MEDIA, INC.		

This International Searching Authority hereby declares, according to Article 17(2)(a), that **no international search report will be established** on the international application for the reasons indicated below

1. ☒ The subject matter of the international application relates to:
 - a. ☐ scientific theories.
 - b. ☐ mathematical theories
 - c. ☐ plant varieties.
 - d. ☐ animal varieties.
 - e. ☐ essentially biological processes for the production of plants and animals, other than microbiological processes and the products of such processes.
 - f. ☒ schemes, rules or methods of doing business.
 - g. ☐ schemes, rules or methods of performing purely mental acts.
 - h. ☐ schemes, rules or methods of playing games.
 - i. ☐ methods for treatment of the human body by surgery or therapy.
 - j. ☐ methods for treatment of the animal body by surgery or therapy.
 - k. ☐ diagnostic methods practised on the human or animal body.
 - l. ☐ mere presentations of information.
 - m. ☐ computer programs for which this International Searching Authority is not equipped to search prior art.


2. ☐ The failure of the following parts of the international application to comply with prescribed requirements prevents a meaningful search from being carried out:

☐ the description
 ☐ the claims
 ☐ the drawings

3. ☐ The failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions prevents a meaningful search from being carried out:

☐ the written form has not been furnished or does not comply with the standard.
 ☐ the computer readable form has not been furnished or does not comply with the standard.

4. Further comments:

Name and mailing address of the International Searching Authority  European Patent Office, P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer <p style="text-align: center;">M. Rodriguez Nóvoa</p>
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FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 203

The claims relate to subject matter for which no search is required according to Rule 39 PCT. Given that the claims are formulated in terms of such subject matter or merely specify commonplace features relating to its technological implementation, the search examiner could not establish any technical problem which might potentially have required an inventive step to overcome. Hence it was not possible to carry out a meaningful search into the state of the art (Art. 17(2)(a)(i) and (ii) PCT; see Guidelines Part B Chapter VIII, 1-6).

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

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